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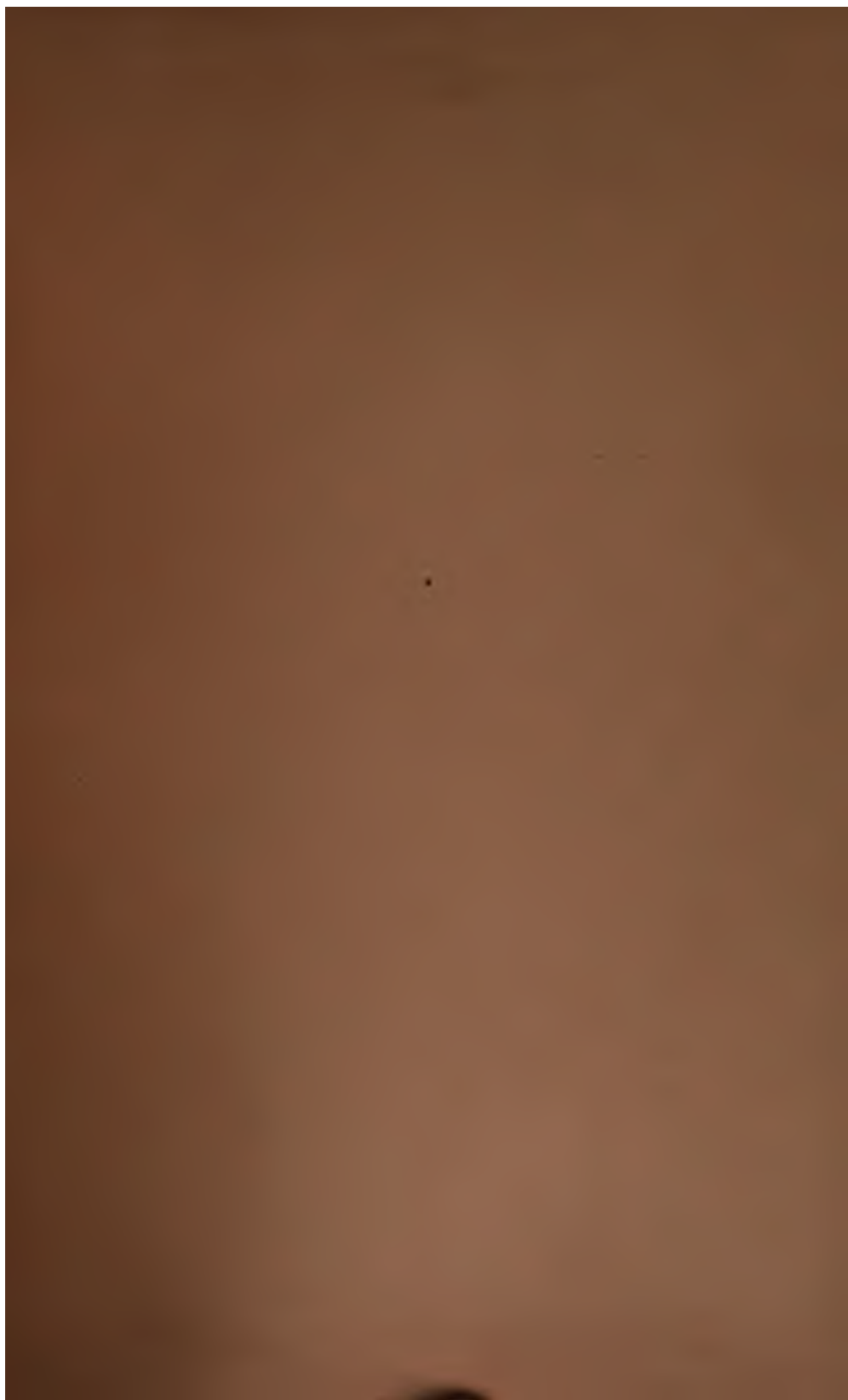
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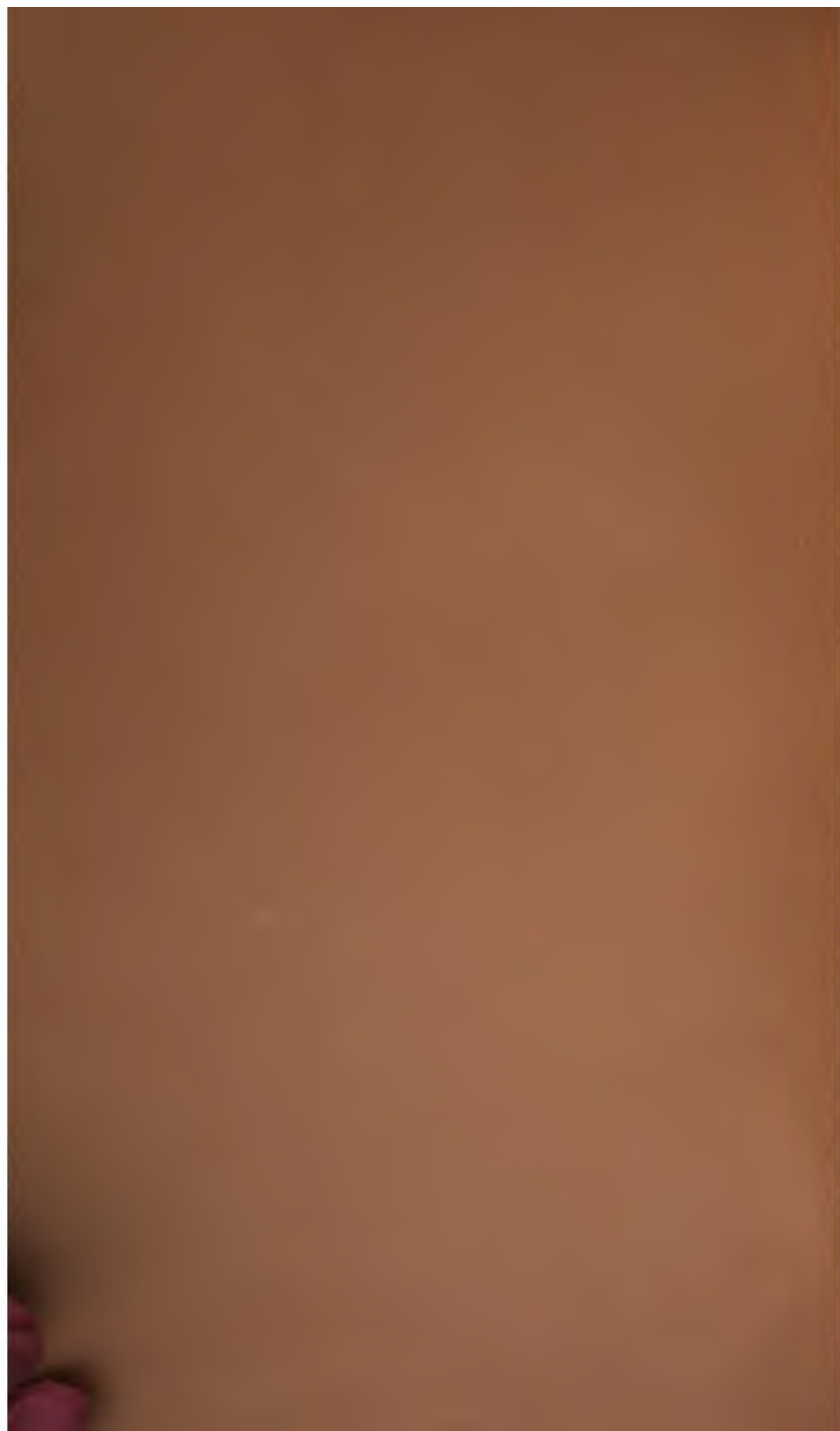
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FERRARI-PEREZ, Prof. FERNANDO, Naturalist Mexican Geol. Expl. Commission, Pueblo, Mexico.....	1885
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JUDD, SYLVESTER D., Georgetown Univ., Washington, D. C.....	1893
JUSTICE, WILLIAM W., Jr., Germantown, Philadelphia, Pa.....	1895
KAEDING, HENRY BARROILHET, 1201 Laguna St., San Francisco, Cal.....	1897
KEAY, FRED. ERBURN, North Cambridge, Mass.....	1898
KELKER, WILLIAM A., Harrisburg, Pa.....	1896
KELLOGG, VERNON L., Stanford University, Cala.....	1888
KENDALL, Dr. WILLIAM C., U. S. Fish Comm., Washington, D. C.....	1886
KENNARD, FREDERIC HEDGE, Brookline, Mass.....	1892
KEYSER, Rev. LEANDER S., Atchison, Kan.....	1891
KING, GEORGE GORDON, Newport, R. I.....	1888
KIRKWOOD, FRANK C., P. O. Box 364, Baltimore, Md.....	1892
KNETSCH, ROBERT, Terra Cotta, Ills.....	1898
KNIGHT, ORA WILLIS, Bangor, Me.....	1893
KNOLHOFF, FERDINAND WILLIAM, 28 Winans St., East Orange, N. J.....	1897
KNOWLTON, F. H., U. S. Nat. Mus., Washington, D. C.....	1883
KNOX, JOHN C., Auburn, N. Y.....	1897
KOBBÉ, WILLIAM H., Fort Mason, San Francisco, Cala.....	1898
KOCH, Prof. AUGUST, Williamsport, Pa.....	1891
KOCH, FREDERIC W., Merced, Cala.....	1891
KOHN, GUSTAVE, 14 Carondelet St., New Orleans, La.....	1886

KOUMLY, Rev. PIRMINÉ M., St. Benedict's College, Atchison, Kansas.	1892
KUMLIEN, LUDWIG, Milton, Wis.	1895
LADD, SAMUEL B., West Chester, Pa.	1889
LAHEE, EUGENE H., Covina, Cala.	1893
LANGE, Dr. CHARLES J., 50 Juneau Av., Milwaukee, Wis.	1897
LANO, ALBERT, Aitkin, Minn.	1890
LANTZ, Prof. DAVID ERNEST, Chapman, Kans.	1885
LATIMER, Miss CAROLINE P., 63 Remsen St., Brooklyn, N. Y.	1898
LAWRENCE, HIRAM V., 132 Bedford Ave., Brooklyn, N. Y.	1895
LAWRENCE, ROBERT B., Flushing, N. Y.	1883
LEE, Miss MARY, 5131 Morris St., Germantown, Pa.	1898
LEMMON, WILLIAM P., Englewood, N. J.	1896
LEUTLOFF, HERMAN C. A., 611 E. 136th St., New York City.	1896
LEVERING, THOMAS HENRY, 1435 Chapin St., Washington, D. C.	1898
LINSKILL, DAVID J., Plymouth, Pa.	1891
LONG, HORACE B., Worcester, Mass.	1889
LOOMIS, Miss EDNA, Jackson, Mich.	1897
LOOMIS, JOHN A., Paint Rock, Concho Co., Texas.	1887
LORING, J. ALDEN, Dept. of Agriculture, Washington, D. C.	1889
LOWBER, Miss EMMA WORRELL, 2045 Locust St., Philadelphia, Pa.	1898
LOWE, WILLOUGHBY P., Goodpasture, Colo.	1893
LUM, GEORGE RENWICK, 18 North St., Stamford, Conn.	1899
LUSK, RICHARD D., Fort Huachuca, Ariz.	1894
MACDOUGALL, GEORGE R., 112 Wall St., New York City.	1890
MACKAY, GEORGE H., Nantucket, Mass.	1890
MADDOCK, Miss EMELINE, The Bartram, Philadelphia, Pa.	1897
MAGUIRE, Dr. J. R., Lewistown, Ill.	1896
MAILLIARD, JOHN W., 307 Sansome St., San Francisco, Cala.	1895
MAILLIARD, JOSEPH, San Geronimo, Cala.	1895
MAITLAND, ROBERT L., 70 Broad St., New York City.	1889
MALI, CHARLES M., 93 Willow St., Brooklyn, N. Y.	1889
MARBLE, CHARLES C., 6126 Ingleside Av., Chicago, Ill.	1897
MARCY, Prof. OLIVER, Evanston, Ill.	1892
MARSH, DANIEL J., Springfield, Mass.	1894
MARTIN, JOHN WILLIAM, Palestine, Ore.	1898
MASON, HOWARD HARRIS, Box 287, Riverpoint, R. I.	1897
MASTERMAN, ELMER ELLSWORTH, New London, Ohio.	1895
MATHEWS, Miss CAROLINE, Waterville, Me.	1898
MAULE, WILLIAM MARIS, Swathmore College, Pa.	1895
MAYNARD, COLTON, 1407 15th St., N. W., Washington, D. C.	1895
MCCADDEN, DAVID, 3959 Parrish St., Philadelphia, Pa.	1898
MCCOOK, PHILIP JAMES, Cambridge, Mass.	1895
MCCORMICK, LOUIS M., Glen Island, N. Y.	1892
MCGREGOR, RICHARD C., Palo Alto, Cala.	1889
McHATTON, Dr. HENRY, 335 College St., Macon, Ga.	1898
McILHENNY, EDWARD AVERY, Avery, La.	1894
McKENZIE, PETER, 4492 St. Catharine St., Montreal, Can.	1896

McKINLAY, JAMES, Pictou, Nova Scotia.....	1898
MCLAIN, ROBERT BAIRD, Wheeling, W. Va.....	1893
MEAD, GEORGE S., 3300 Washington St., San Francisco, Cal.....	1898
MERRIAM, Miss FLORENCE A., 1919 16th St., N. W., Washington, D. C.....	1885
MERRILL, HARRY, Bangor, Maine.....	1883
MEYERS, Miss LUCY F., Brookside, Poughkeepsie, N. Y.....	1898
MILLER, GERRIT SMITH, Jr., Peterboro', N. Y.....	1886
MILLER, JAMES HENRY, Lowville, N. Y.....	1894
MILLER, Miss MARY MANN, 827 De Kalb Ave., Brooklyn, N. Y.....	1898
MILLER, Mrs. OLIVE THORNE, 827 De Kalb Ave., Brooklyn, N. Y.....	1887
MILLER, WALDRON DEWITT, Plainfield, N. J.....	1896
MILLS, HARRY C., Unionville, Conn.....	1897
MITCHELL, Mrs. MINA BAKER, Chattanooga, Tenn.....	1898
MITCHELL, WALTON I., 1953 Stout St., Denver, Colo.....	1893
MOORE, ROBERT THOMAS, Haddonfield, N. J.....	1898
MORCOM, G. FREAN, 406 So. Broadway, Los Angeles, Cal.....	1886
MORISON, GEORGE ABBOT, 17 Farrar St., Cambridge, Mass.....	1896
MORRELL, CLARENCE HENRY, Pittsfield, Me.....	1897
MORRIS, GEORGE SPENCER, Olney, Philadelphia, Pa.....	1887
MORRIS, ROBERT O., Springfield, Mass.....	1888
MORRISON, GEORGE A., Fox Lake, Wis.....	1891
MORSE, GEORGE W., 8612 Morgan St., Chicago, Ill.....	1898
MOSHER, FRANK H., 283 Pleasant St., Malden, Mass.....	1898
MULLIKEN, WILLARD EARLE, Grand Rapids, Mich.....	1898
MURDOCK, JOHN, Roxbury, Mass.....	1883
NASH, HERMAN W., Pueblo, Colorado.....	1892
NELSON, JAMES ALLEN, Urbana, Ohio.....	1898
NEWBURY, FREDERICK EARL, 82 Westminster St., Providence, R. I.....	1897
NEWMAN, STEPHEN M., D. D., 10th and G. Sts., Washington, D. C.....	1898
NICHOLS, JOHN M., Peabody, Mass.....	1890
NICHOLSON, AUGUSTUS MILTON, Orlando, Fla.....	1898
NORRIS, Rev. JAMES AVERY, Glen Cove, N. Y.....	1894
NORRIS, J. PARKER, 723 Walnut St., Philadelphia, Pa.....	1886
NORTON, ARTHUR H., Westbrook, Maine.....	1890
NORTON, ARTHUR HENRY WHITELEY, Austin, Texas.....	1894
NORTON, RICHARD, Cambridge, Mass.....	1888
NOWELL, JOHN ROWLAND, Anderson, S. C.....	1897
OBERHOLSER, HARRY C., Dept. of Agriculture, Washington, D. C.....	1888
O'CONNOR, HALDEMAN, 25 No. Front St., Harrisburg, Pa.....	1896
OGDEN, Dr. HENRY VINING, 141 Wisconsin St., Milwaukee, Wis.....	1897
OLDS, HENRY WORTHINGTON, 302 New Jersey Av., Washington, D. C.....	1896
O'NEIL, EDWARD, Sewickley, Allegheny Co., Pa.....	1893
ORTH, GEORGE S., Bridgeville, Pa.....	1892
OSBORN, CHASE SALMON, Sault Ste. Marie, Mich.....	1893
OSBURN, Rev. WILLIAM, Nashville, Tenn.....	1890
OSGOOD, FLETCHER, Chelsea, Mass.....	1897



OSGOOD, WILFRED HUDSON, Dept. of Agriculture, Washington, D. C.	1893
OWEN, CHARLES C., East Orange, N. J.	1896
OWEN, Miss JULIETTE AMELIA, St. Joseph, Mo.	1897
PAGE, Mrs. ALICE WILSON, 9 Buckingham St., Cambridge, Mass.	1896
PAINE, AUGUSTUS G., Jr., 311 W. 74th St., New York City	1886
PALMER, Dr. THEODORE S., Dept. of Agriculture, Washington, D. C.	1888
PALMER, WILLIAM M., 84 Beekman St., New York City	1896
PAPE, CHARLES WESLEY, Manhattan, Kansas	1896
PARKER, J. GRAFTON, Jr., 100 Washington St., Chicago, Ill.	1894
PARKER, WENDELL PHILIPPS, 2 Midland St., Worcester, Mass.	1897
PAYNE, CHARLES, Wichita, Kan.	1898
PAYNE, E. B., Catlin, Ill.	1896
PEABODY, Rev. P. B., Hallock, Minn.	1891
PEABODY, WILLIAM RODMAN, Cambridge, Mass.	1890
PEARSON, T. GILBERT, State Univ., Chapel Hill, N. C.	1891
PENNOCK, CHARLES J., Kennett Square, Chester Co., Pa.	1888
PERKINS, CHARLES E., Hartford, Conn.	1888
PERRIOR, ALBERT WILLIAM, 316 E. Kennedy St., Syracuse, N. Y.	1897
PERRY, JOSEPH FRANCIS, 198 Pearl St., Providence, R. I.	1897
PETERSON, J. P., West Denmark, Polk Co., Wis.	1885
PHELPS, WILLIAM HENRY, Law Div., Custom House, New York, N. Y.	1895
PHILIP, HOFFMAN, Metropolitan Club, Washington, D. C.	1897
PHILLIPS, A. H., Princeton, N. J.	1891
PIERCE, A. K., Renovo, Pa.	1891
PIERS, HARRY, "Stanyan," North West Arin, Halifax, N. S.	1891
POMEROY, HARRY KIRKLAND, P. O. Box 575, Kalamazoo, Mich.	1894
POPENOE, Prof. EDWIN A., Topeka, Kan.	1886
PORTER, LOUIS H., 313 W. 75th St., New York City	1893
POTTER, RAYMOND B., Nyack, N. Y.	1895
POWERS, WILLIAM LINCOLN, Gardiner, Maine	1895
PRAEGER, WILLIAM E., University of Illinois, Urbana, Ill.	1892
PRATT, Rev. GEORGE B., 61 Laflin St., Chicago, Ill.	1895
PREBLE, EDWARD A., Dept. of Agriculture, Washington, D. C.	1892
PRENTISS, D. WEBSTER, Jr., 1218 9th St., N. W., Washington, D. C.	1890
PRICE, WILLIAM THOMPSON, Glen Cove, N. Y.	1898
PRICE, WILLIAM W., Palo Alto, Cal.	1893
PURDY, JAMES B., Plymouth, Mich.	1893
RALPH, Dr. WILLIAM L., 26 Court St., Utica, N. Y.	1888
RANN, Mrs. MARY L., Manchester, Iowa	1893
RATHBUN, FRANK R., 424 Franklin St., Auburn, N. Y.	1883
RAWSON, CALVIN LUTHER, Norwich, Conn.	1885
READ, ALBERT M., 1140 15th St., N. W., Washington, D. C.	1895
REAGH, ARTHUR LINCOLN, 39 Maple St., West Roxbury, Mass.	1896
REDFIELD, Miss ELISA WHITNEY, 107 No. 34th St., Philadelphia, Pa.	1897
REDINGTON, ALFRED POKTT, Santa Barbara, Cal.	1890
REED, J. HARRIS, Beverly, N. J.	1890

REED, HOWARD S., 1320 Gaylord St., Denver, Colo.....	1894
RHOADS, CHARLES J., Bryn Mawr, Pa.....	1895
RHOADS, SAMUEL N., Haddonfield, N. J.....	1885
RICHARDSON, JOHN KENDALL, Wellesley Hills, Mass.....	1896
RICKER, EVERETT WILDER, Jamaica Plains, Mass.....	1894
RIDGWAY, JOHN L., U. S. Geol. Surv., Washington, D. C.....	1890
RIKER, CLARENCE B., Maplewood, N. J.....	1885
RILEY, JOSEPH H., Falls Church, Va.....	1897
RIVES, Dr. WILLIAM C., 285 Madison Av., New York City.....	1885
ROBINS, Mrs. JULIA STOCKTON, 114 S. 21st St., Philadelphia, Pa....	1895
ROBERTS, GEORGE W., West Chester, Pa.....	1891
ROBERTS, W. F., 2512 University Place, N. W., Washington, D. C....	1888
ROBINSON, Lieut. WIRT, U. S. A., Hubbard Park, Cambridge, Mass.....	1897
ROCKWELL, ROBERT BLANCHARD, 3034 W. 24th Ave., Denver, Colo.....	1898
RODDY, Prof. H. JUSTIN, Millersville, Pa.....	1891
ROOD, Mrs. E. IRENE, 706 Colorado St., Austin, Texas .....	1893
ROOSEVELT, FRANKLIN DELANO, Hyde Park, N. Y.....	1896
ROOSEVELT, Hon. THEODORE, Oyster Bay, Queens Co., N. Y.....	1888
ROTZELL, Dr. W. E., Narberth, Pa.....	1893
ROWLAND, Mrs. ALICE STORY, Plainfield, N. J.....	1897
ROWLEY, JOHN, Jr., Am. Mus. Nat. Hist., New York City.....	1889
ROZYCKI, STEPHEN, Navy Dept., Washington, D. C.....	1894
RUSSELL, WATERMAN S. C., Manchester-by-the-Sea, Mass.....	1896
SAGE, HENRY M., Albany, N. Y.....	1885
SAMPSON, WALTER BEHRNARD, Stockton, Cala.....	1897
SANFORD, FRANK ELWOOD, Supt. Public Schools, La Grange, Ill....	1897
SANFORD, GEORGE ALDEN, Newburgh, N. Y.....	1898
SAVAGE, DAVID LEWIS, Salem, Iowa.....	1894
SAVAGE, JAMES, 134 Abbott St., Buffalo, N. Y.....	1895
SAVAGE, WALTER GILES, Hillsboro, Henry Co., Iowa.....	1898
SCHALER, JOHN, Stamford, Conn.....	1893
SCHOENEBECK, AUGUST JOHN, Kelley Brook, Wis.....	1898
SCHRAGE, E. B., Pontiac, Mich.....	1895
SCHURR, Prof. THEODORE A., Pittsfield, Mass.....	1888
SCHWAB, Rev. LAWRENCE H., 100 Lawrence St., New York City....	1892
SCUDDER, BRADFORD A., Taunton, Mass.....	1893
SCULL, ANDREW STEWART, 262 Mt. Vernon St., Camden, N. J.....	1897
SEISS, COVINGTON FEW, 1338 Spring Garden St., Philadelphia, Pa....	1898
SELOUS, PERCY SHERBORN, Greenville, Mich.....	1898
SHATTUCK, EDWIN HAROLD, Granby, Conn.....	1898
SHATTUCK, GEORGE CHEEVER, 135 Marlboro St., Boston, Mass.....	1896
SHAW, HOLTON A., Grand Forks, No. Dakota.. ..	1898
SHELDON, CHARLES, Chihuahua, Mexico.....	1898
SHEPPARD, EDWIN, Acad. Nat. Sci., Philadelphia, Pa.....	1892
SHERRILL, W. E., Haskell, Texas.....	1896
SHIELDS, ALEXANDER M., Crocker Bldg., San Francisco, Cala.....	1896
SHIELDS, GEORGE O., 19 W. 24th St., New York City.....	1897

SHOEMAKER, FRANK H., Omaha, Neb.....	1895
SHRYOCK, WILLIAM A., 823 N. Broad St., Philadelphia, Pa.....	1893
SILLOWAY, PERLEY MILTON, Rood House, Ill.....	1896
SMITH, CHARLES PIPER, 321 W. 8th St., Anderson, Ind.....	1898
SMITH, HORACE G., 2918 Lafayette St., Denver, Colo.....	1888
SMITH, Dr. HUGH M., 1248 New Jersey Ave., Washington, D. C.....	1886
SMITH, THEODORE H., Orange, N. J.....	1896
SMITH, S. SIDNEY, 59 Wall St., New York City.....	1888
SMYTH, Prof. ELLISON A., Jr., Agr. and Mech. Coll., Blacksburg, Va.....	1892
SNIVELY, Miss ANNA M., 4568 Oakenwald Ave., Chicago, Ill.....	1898
SNYDER, WILL EDWIN, Beaver Dam, Wis.....	1895
SORNBORGER, JEWELL D., Cambridge, Mass.....	1888
SOUTHARD, ROBERT HAMILTON, Cap & Gown Club, Princeton, N. J.....	1898
SOUTHWICK, E. B., Arsenal Bldg., Central Park, New York City.....	1888
SOUTHWICK, JAMES M., Mus. Nat. Hist., Providence, R. I.....	1896
SPAULDING, FRED. B., Lancaster, N. H.....	1894
SPELMAN, HENRY MUNSON, Cambridge, Mass.....	1883
SPRAGUE, WILLIAM ARNOLD, East Providence, R. I.....	1898
STANTON, Prof. J. Y., Bates College, Lewiston, Me.....	1883
STEELE, Dr. MINOT A., Portsmouth, R. I.....	1898
STEPHENS, FRANK, 642 Irving Av., San Diego, Cal.....	1883
STEPHENSON, Mrs. LOUISE MCGOWN, Helena, Ark.....	1894
STONE, CLARENCE FREEDOM, Branchport, N. Y.....	1894
STONE, DWIGHT D., Lansing, N. Y.....	1891
STREATOR, CLARK P., 14 Mason St., Santa Cruz, Cal.....	1889
STRONG, REUBEN M., 11 Mellen St., Cambridge, Mass.....	1889
STUDER, JACOB HENRY, 114 Fifth Ave., New York City.....	1888
STURTEVANT, EDWARD, Newport, R. I.....	1896
SURFACE, HARVEY ADAM, Cornell University, Ithaca, N. Y.....	1897
SUTTON, GEORGE BYRON, Newark Valley, N. Y.....	1896
SWINBURNE, JOHN, Guernsey, England.....	1887
TABOR, ERNEST G., Meridian, N. Y.....	1898
TALLEY, Prof. THOMAS WASHINGTON, Tallahassee, Fla.....	1896
TATLOCK, JOHN, Jr., Mutual Life Ins. Co., New York City.....	1887
TATUM, JOSEPH WILLIAM, 843 No. 41st St., Philadelphia, Pa.....	1897
TAYLOR, ALEXANDER O'DRISCOLL, 124 Bellevue Ave., Newport, R. I.....	1888
TEST, Dr. FREDERICK CLEVELAND, 4401 Indiana Ave., Chicago, Ill.....	1892
THAYER, ABBOTT H., Scarborough, N. Y.....	1896
THAYER, JOHN ELIOT, Lancaster, Mass.....	1898
THOMAS, HOWARD WELLS, 1705 Race St., Philadelphia, Pa.....	1898
THOMPSON, ERNEST SETON, 144 5th Av., New York City.....	1883
THOMSON, Prof. GEORGE S., Ward, Colo.....	1892
TODD, LOUIS M., Calais, Me.....	1887
TODD, W. E. CLYDE, Dept. of Agriculture, Washington, D. C.....	1890
TOPPAN, GEORGE L., 294 Newbury St., Boston, Mass.....	1886
TORREY, BRADFORD, Wellesley Hills, Mass.....	1883
TOWNSEND, CHARLES H., U. S. Fish Comm., Washington, D. C.....	1883

TOWNSEND, WILMOT, Bay Ridge, N. Y.....	1894
TREAT, WILLARD E., Silver Lane, Conn.....	1885
TROMBLEY, JEROME, Petersburg, Mich.....	1885
TROSTLER, ISADOR SIMON, 4246 Farnam St., Omaha, Neb.....	1897
TROTTER, Dr. SPENCER, Swarthmore College, Swarthmore, Pa.....	1888
TUTTLE, Dr. CARL, Berlin Heights, Ohio.....	1890
UPHAM, Mrs. MARY C., Marshfield, Wis.....	1897
UTTER, HERBERT LAMB, 792 Hancock St., Brooklyn, N. Y.....	1898
VAN CORTLANDT, Miss ANNE S., Croton-on-Hudson, N. Y.....	1885
VAN DENBURG, Dr. JOHN, Los Gatos, Cal. ....	1893
VAN SANT, Miss ELIZABETH, City Hall, Omaha, Neb.....	1896
VAUGHAN, CLIFFORD WHEATON, 47 W. 83d St., New York City.....	1894
VELIE, Dr. J. W., St. Joseph, Mich.....	1886
VETTER, Dr. CHARLES, Jr., 152 Second St., New York City.....	1898
VILARO, Dr. JUAN, Havana, Cuba.....	1888
VOELKER, CHARLES A., Adamsford, Del. Co., Pa.....	1897
WALCOTT, ROBERT, 11 Waterhouse St., Cambridge, Mass.....	1893
WALES, EDWARD H., Hyde Park, N. Y.....	1896
WALKER, Dr. R. L., Carnegie, Pa.....	1888
WARREN, Dr. B. H., West Chester, Pa.....	1885
WARREN, OSCAR BIRD, Hibbing, Minn.....	1892
WATERMAN, WILLIAM, Bigelow, Minn.....	1896
WATERS, EDWARD STANLEY, Holyoke, Mass.....	1894
WATKINS, L. WHITNEY, Manchester, Mich.....	1894
WEBSTER, Mrs. ELLEN EMELINE, Franklin Falls, N. H.....	1898
WEST, LEWIS H., Roslyn, Nassau Co., N. Y.....	1887
WHEELER, EDMUND JACOB, 95 Jefferson Av., New London, Conn.....	1898
WHEELER, Rev. HARRY EDGAR, Huntsville, Ala.....	1897
WHEELER, JOHN B., East Templeton, Mass.....	1897
WHITAKER, WILLIAM LINCOLN, Cedar Grove, Philadelphia, Pa.....	1894
WHITE, FRANCIS BEACH, Cambridge, Mass.....	1891
WHITCOMB, Mrs. ANNABELL COOK, 721 Franklin St., Milwaukee, Wis.....	1897
WHITMAN, Prof. CHARLES OTIS, Univ. of Chi., Chicago, Ills.....	1896
WHOLEY, WM. N., West Berkeley, Cal.....	1891
WICKS, M. L., Jr., Los Angeles, Cal.....	1890
WILBUR, ADDISON P., Canandaigua, N. Y.....	1895
WILCOX, T. FERDINAND, Princeton, N. J.....	1895
WILDE, MARK L. C., Merchantville, N. J.....	1893
WILLARD, FRANK COTTLE, Tombstone, Ariz.....	1898
WILLIAMS, J. BICKERTON, 32 University St., Montreal, Can.....	1889
WILLIAMS, ROBERT STATHAM, 408 1st Ave., S. Minneapolis, Minn.....	1888
WILLIAMS, W. J. B., Holland Patent, N. Y.....	1893
WILSON, Miss LILIAN BARTON, 728 Marcy Av., Brooklyn, N. Y.....	1897
WILSON, SIDNEY S., 420 So. 10th St., St. Joseph, Mo.....	1895
WINTLE, ERNEST D., 189 St. James St., Montreal, Can.....	1887
WOOD, NELSON R., Smithsonian Institution, Washington, D. C.....	1895

*Deceased Members.*

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WOODRUFF, FRANK M., Acad. Sci., Lincoln Park, Chicago, Ill.....	1894
WOODRUFF, LEWIS B., 14 East 68th St., New York City.....	1886
WOODWORTH, Mrs. NELLY HART, St. Albans, Vt.....	1894
WORCESTER, Prof. DEAN C., 525 Elm St., Ann Arbor, Mich.....	1895
WORTHEN, CHARLES K., Warsaw, Ill.....	1891
WORTHINGTON, R. B., Dedham, Mass.....	1893
WORTHINGTON, WILLIS W., Shelter Island, Suffolk Co., N. Y.....	1889
WRIGHT, FRANK S., 51 Genesee St., Auburn, N. Y.....	1894
WRIGHT, Mrs. MABEL OSGOOD, Fairfield, Conn.....	1895
WRIGHT, Miss NORA GIRALDA, Olneyville, R. I.....	1896
WRIGHT, SAMUEL, Conshohocken, Pa.....	1895
YORKE, Dr. F. HENRY, Foosland, Ill.....	1891
YOUNG, CURTIS CLAY, 395 Clermont Ave., Brooklyn, N. Y.....	1891

DECEASED MEMBERS.

ACTIVE MEMBERS.

*Date of Death.*

BAIRD, SPENCER FULLERTON.....	Aug. 19, 1887
BENDIRE, CHARLES E.....	Feb. 4, 1897
GOSS, N. S.....	March 10, 1891
HOLDER, JOSEPH B.....	Feb. 28, 1888
JEFFRIES, JOHN AMORY.....	March 26, 1892
WHEATON, JOHN M.....	Jan. 28, 1887

HONORARY MEMBERS.

BURMEISTER, HERMANN.....	May 1, 1892
GÄTKE, HEINRICH.....	Jan. 1, 1897
GUNDLACH, JUAN.....	March 14, 1896
GURNEY, JOHN HENRY.....	April 20, 1890
HUXLEY, THOMAS H.....	June 29, 1895
KRAUS, FERDINAND.....	Sept. 15, 1890
LAWRENCE, GEORGE N.....	Jan. 17, 1895
PARKER, WILLIAM KITCHEN.....	July 3, 1890
PELZELN, AUGUST VON.....	Sept. 2, 1891
SALVIN, OSBERT.....	June 1, 1898
SCHLEGEL, HERMANN.....	Jan. 17, 1884
SEEBOHM, HENRY.....	Nov. 26, 1895
TACZANOWSKI, LADISLAS.....	Jan. 17, 1890

CORRESPONDING MEMBERS.

BALDAMUS, EDUARD.....	Oct. 30, 1893
BLAKISTON, THOMAS W.....	Oct. 15, 1891

BOGDANOW, MODEST N.....	March 4, 1888
HAAST JULIUS VON.....	Aug. 15, 1887
HARGITT, EDWARD.....	March 19, 1895
HOMEYER, E. F. VON.....	May 31, 1889
LYTTLETON THOMAS, LORD LILFORD.....	June 17, 1896
MARSCHALL, A. F.....	Oct. 11, 1887
MALMGREN ANDERS JOHAN.....	April 12, 1897
MIDDENDORFF, ALEXANDER THEODOR VON.....	Jan. 28, 1894
MOSJISOVICS F. G. HERMANN AUGUST.....	Aug. 27, 1897
PREJEVALSKI, N. M.....	Oct. 20, 1887
PRYER HARRY JAMES STOVIN.....	Feb. 17, 1888
SCHRENCK, LEOPOLD VON.....	Jan. 20, 1894
SEVERTZOW, N.....	Feb. 8, 1885
STEVENSON, HENRY.....	Aug. 18, 1888
WHARTON, HENRY T.....	Sept. —, 1895

## ASSOCIATE MEMBERS.

ADAMS, CHARLES F.....	May 20, 1893
ALLEN, CHARLES SLOVER.....	Oct. 15, 1893
ATKINS, H. A.....	May 19, 1885
EVERY, WILLIAM CUSHMAN.....	March 11, 1894
BAUR, GEORGE.....	June 25, 1898
BECKHAM, CHARLES WICKLIFF.....	June 8, 1888
BILL, CHARLES.....	April —, 1897
BOLLES, FRANK.....	Jan. 10, 1894
BREESE, WILLIAM L.....	Dec. 7, 1889
BROKAW, L. W.....	Sept. 3, 1897
CAIRNS, JOHN S.....	June 10, 1895
CAMPBELL, ROBERT ARGYLL.....	April —, 1897
CORNING, ERASTUS, JR.....	April 9, 1893
COE W W.....	April 26, 1885
ELLIOTT, S. LOWELL.....	Feb. 11, 1889
FAIRBANKS, FRANKLIN.....	April 24, 1895
GESNER, A. H.....	April 30, 1895
Goss, BENJAMIN F.....	July 6, 1893
HATCH, JESSE MAURICE.....	May 1, 1898
HODLEY, FREDERIC H.....	Feb. 26, 1895
HOWLAND, JOHN SNOWDON.....	Sept. 19, 1885
INGERSOLL, JOSEPH CARLETON.....	Oct. 2, 1898
JENKS, JOHN W. P.....	Sept. 27, 1894
JOUY, PIERRE LOUIS.....	March 22, 1894
KUMLIEN, THURE.....	Aug. 5, 1888
LAWRENCE, ROBERT HOE.....	April 27, 1897
LINDEN, CHARLES.....	Feb. 3, 1888
MABBETT, GIDEON.....	Aug. 15, 1890

*Deceased Members.*

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MARIS, WILLARD LORRAINE.....	Dec. 11, 1895
MINOT, HENRY DAVIS.....	Nov. 13, 1890.
NICHOLS, HOWARD GARDNER.....	June 23, 1896.
NORTHROP, JOHN I.....	June 26, 1891
PARK, AUSTIN F.....	Sept. 22, 1893.
RAGSDALE, GEO. H.....	March 25, 1895.
RICHARDSON, JENNESS.....	June 24, 1893
SLATER, JAMES H.....	Feb. —, 1895
SMALL, EDGAR A.....	April 24, 1884
SMITH, CLARENCE ALBERT.....	May 6, 1896
STOWE, W. H.....	March —, 1895
THORNE, PLATTE M.....	March 16, 1897
THURBER, E. C.....	Sept. 6, 1896
VENNOR, HENRY G.....	June 8, 1884
WILLARD, SAMUEL WELLS.....	May 24, 1887
WOOD, WILLIAM.....	Aug. 9, 1885







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LOUISIANA SEASIDE SPARROW.  
*AMMODRAMUS MARITIMUS FISHERI* CHAPM.

TEXAS SEASIDE SPARROW.  
*AMMODRAMUS BENNETTI* ALLEN.

$\frac{3}{4}$  NATURAL SIZE.

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NO. 1.

THE DISTRIBUTION AND RELATIONSHIPS OF THE  
*DRUM'S MIPARTITES* AND *TESAII*.

EDWARD S. CHAPMAN.

PLATE I. FIGS. 1-10.

A FIELD experience with four or five long recognized seaside Sparrows has been the means of calling my attention to certain apparent anomalies in their distribution and relationships which in the following pages I have attempted to peak out.

The material at my command, while not verily satisfactory, is nevertheless, I trust, sufficient to warrant a present explanation of the facts it presents. It includes some type specimens, including series loaned me by Mr. Robert Ridgway from the collections under his charge, by Mr. William Brewster and Mr. A. S. Fisher, and also the examples in the American Museum of Natural History. The specimens loaned me by the gentlemen named constitute so important a part of the material studied that I feel under more than usual obligation to them.

From Mr. Ridgway I have received a series of Mr. Bird's collected by Mr. E. A. McIlhenny on the coast of Louisiana, and breeding birds collected by Lieut. Wirt Robbins on near St. Augustine, Florida; Mr. Brewster sends specimens from the west end of Florida; breeding birds collected by him at St. Marys, Georgia, and a most puzzling series from the vicinity of Chiles

ton, South Carolina, while Dr. Fisher forwards breeding birds and young in first plumage from Grand Isle, Louisiana.

The questions involved in a study of these birds may be best presented by a brief consideration of our recorded knowledge of the distribution and relationships of the five described forms, namely: *Ammodramus maritimus*, *A. m. peninsulae*, *A. m. sennetti*, *A. m. macgillivraii*, and *A. nigrescens*. Of these five forms, which are here given under their current names, the status of *A. nigrescens* and *A. m. sennetti* is apparently clear and these two birds may be considered before taking up the perplexing questions presented by the remaining three forms.

### ***Ammodramus nigrescens* (Ridgw.).**

*Ammodramus maritimus* var. *nigrescens* RIDGW. Bull. Essex Inst. V, 1873, 198; B. B. & R. N. A. Birds, III, 1875, App. 513 (descr. only) *ibid.* I, pl. facing p. 560.

*Ammodramus melanoleucus* MAYNARD, Am. Sportsman, V, 1875, 248; Birds of E. N. A. 1881, 119, pl. V (descr., habits, dist.)

*Ammodramus nigrescens* RIDGW. Proc. U. S. Nat. Mus. III, 1880, 178; CHAPMAN, Auk, XV, 1898, 270 (habits).

This strongly marked species was discovered by Mr. C. J. Maynard at Salt Lake, near Titusville, Florida, in March, 1892. Only a single specimen was secured at this locality, but he afterwards found it to be "quite common" on the marshes bordering the east shore of the Indian River, opposite Titusville, as recorded in the 'American Sportsman' and 'Birds of Eastern North America.' The information contained in these publications constituted all our published knowledge of the life history and distribution of this species until the appearance of my note on its abundance in the marshes about the mouth of Dummitt's Creek (Auk, l. c.), but Mr. Maynard has furnished me with the following valuable data in regard to its distribution, which, with his kind permission, I print in full: "The Black and White Shore Finch, of which I have, so far as I know, taken all of the specimens in collections, excepting two, that were shot by a friend who was with me in Florida, but who took the two in question after I left, occurs rarely about Salt Lake, Upper St. Johns, Florida, commonly on the northern end of Merritt's Island, on the marshy

islands of Banana River, on the marshes north of this lagoon, west to the Indian River, north along this body of water to the Haulover Canal. It never occurs out of the marsh grass or low water bush. Thus the bird is confined to a belt of country not over a quarter of a mile wide and about ten miles long, if followed through its extent."

When one considers the abundance of this Sparrow and that the region it inhabits is in no sense insolated, but that both to the north and south of the area outlined above there are marshes apparently similar to those it occupies, its restriction to a habitat only a few square miles in extent makes its distribution unique among American birds. In color it is the most strongly characterized form of the group, the black which prevails on the upper parts and so heavily streaks almost the entire under parts, not being equalled in intensity or extent in any of its congeners. Seventeen specimens taken in March, 1898, at the mouth of Dummitt's Creek, are in comparatively unworn plumage and present little variation in color. Their average measurements are: wing, 2.50; tail, 2.04; bill from nostril, .43 inches.

The nearest point at which another representative of this group has been secured is Matanzas Inlet, Florida.

### ***Ammodramus sennetti* (Allen).**

*Ammodramus maritimus sennetti* ALLEN, Auk, V, 1888, 286 (orig. descr.); CHAPMAN, Bull. Am. Mus. Nat. Hist. III, 1891, 323 (habits); RHOADS, Proc. Acad. Nat. Sci. Phila. 1892, 109.

As the second most distinct form in the group and the only one, except *A. nigrescens*, which apparently does not intergrade with its allies, we may next treat of the Seaside Finch resident at Corpus Christi, Texas.

In April, 1891, I found the bird abundant and breeding in the marshes of Nueces Bay. A series of thirteen specimens shows that it more nearly resembles true *maritimus* than it does any other member of the group. It is, however, quite distinct from that form, being distinguished chiefly by its greener color and the black centers to the feathers of the upper parts. To the form geographically nearest to it, the dark Seaside Sparrow

breeding on the coast of Louisiana, the Corpus Christi bird is less closely related than to any other form of the group, except *A. nigrescens*. There is no evidence whatever of its intergradation with any of its congeners and consequently no reason for denying it specific rank.

### ***Ammodramus maritimus* et subsp.**

Having disposed of the two forms whose status is clearest we may now approach those whose relationships and distribution present certain apparent anomalies. Before discussing the questions involved in a study of these birds it will be well to first give briefly our recorded information concerning their distribution and the accepted views in regard to their relationships.

### ***Ammodramus maritimus* (Wils.).**

In the second edition of the A. O. U. 'Check-List' the range of this species is given as "Salt marshes of the Atlantic Coast, from Connecticut southward to Georgia. Accidental in Massachusetts." Recent records show the bird to be a regular summer resident in Rhode Island and as far east as Westport, Mass., just beyond the Rhode Island State line.<sup>1</sup> The locality "Georgia," given in the 'Check-List,' is evidently based on Mr. William Brewster's identification of the series of twelve *breeding* birds taken by himself, in some instances with nests and eggs, at St. Mary's, Georgia.<sup>2</sup>

In the second edition of his 'Manual,' Appendix, page 602, Mr. Ridgway gives the range of *maritimus* as "Massachusetts to northern Florida," the latter locality being doubtless based on Lieut. Robinson's breeding birds from St. Augustine and Matanzas Inlet, which I have previously mentioned as included in the series loaned me by Mr. Ridgway.

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<sup>1</sup> See Howe, Auk XIV, 1897, 219; Sturtevant, *ibid.* 322; Farley, *ibid.* 322.

<sup>2</sup> Auk, XII, 1890, 212.

***Ammodramus maritimus peninsulæ Allen.***

This race was described by Dr. J. A. Allen from specimens collected by W. E. D. Scott at Tarpon Springs, on the west coast of Florida, in February, 1888.<sup>1</sup> With the Florida birds Dr. Allen identified a series of ten adult and six immature birds collected by Dr. A. K. Fisher at Grand Isle, Louisiana, in June, 1886. Shortly afterward Dr. Allen recorded a specimen of *peninsulæ*, in the collection of G. S. Miller, Jr., which had been collected on Sapelo Island, off the coast of Georgia, Dec. 14, 1887.<sup>2</sup> Mr. Brewster also referred to *peninsulæ* two specimens taken on this same island in December, 1887, and Dr. Allen identified with the same form a specimen from near Charleston, S. C.<sup>3</sup>

Mr. W. E. D. Scott records *peninsulæ* as a very common winter resident near Tarpon Springs,<sup>4</sup> the type locality, where, however, it does not breed. In fact the breeding grounds of this Sparrow on the Gulf coast appear to be as yet unknown. Mr. C. J. Maynard<sup>5</sup> states that he found Seaside Sparrows, doubtless this form, about to breed at Cedar Keys, Florida, in February. The date is surprisingly early but it is quite probable that *peninsulæ* may breed in the marshes at Cedar Keys.

***Ammodramus maritimus macgillivraii Ridgw.* (not of Audubon).**

March 25, 1891, I collected at Corpus Christi, Texas, two specimens of a dark Seaside Sparrow which were provisionally referred to *peninsulæ*, with the statement that they were darker than that form and had gray instead of olivaceous edgings to the feathers.<sup>6</sup> They were evidently winter visitants and their breeding ground remained unknown until Mr. E. A. McIlhenny collected a large series of breeding birds on and near Avery's Island,

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<sup>1</sup> Auk, V, 1888, 284.<sup>2</sup> *Ibid.*, V, 1888, 426.<sup>3</sup> *Ibid.*, VII, 1890, 212.<sup>4</sup> Auk, VI, 1889, 322.<sup>5</sup> Birds E. N. A., 121.<sup>6</sup> Bull. Am. Mus. Nat. Hist., III, 1891, 324.

Louisiana. Then it appeared that the birds collected by Dr. Fisher at Grand Isle were also referable to this form. These birds, with the Corpus Christi specimens just mentioned, were considered by Mr. Ridgway<sup>1</sup> to represent *Fringilla macgillivraii* described by Audubon<sup>2</sup> from Charleston, South Carolina, and said later by the same writer to also occur on the coast of Louisiana and Texas.<sup>3</sup> This name had previously been synonymized with that of *Ammodramus maritimus* under the belief that it was based on a specimen of that bird in first plumage.

The following year Dr. Walter Faxon called attention to the fact<sup>4</sup> that Audubon's description of *macgillivraii* having been based on specimens from Charleston, South Carolina, a locality in which *peninsula* was known to occur, the name *macgillivraii* was obviously applicable to the bird known as *peninsula* and not to the quite different bird of Louisiana.

In attempting now to explain the peculiar conditions which this brief summary of current views has set forth, one is at once confronted with the difficulty which has beset all students of these birds, that is, the unusually worn plumage of breeding birds. So greatly does this abrasion affect a bird's appearance that almost the entire range of color variation between *maritimus* and the Louisiana bird, respectively the lightest and darkest members of this restricted group, is shown in Dr. Fisher's series of breeding birds from Grand Isle. Specimens in worn plumage, therefore, must be examined with great care and identified only after the closest comparison. Hence in order to clearly grasp the characters separating these three forms it will be necessary to use non-breeding examples. Thus I have selected a series of fall and early spring<sup>5</sup> birds from Long Island, N. Y., Tarpon

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<sup>1</sup> Manual N. A. Birds, 2nd Ed., 1896, App. 602.

<sup>2</sup> Orn. Biog. II, 1834, 285.

<sup>3</sup> *Ibid.*, IV, 1838, 394.

<sup>4</sup> Auk, XIV, 1897, 321.

<sup>5</sup> It is remarkable, in view of the rapid and extreme abrasion of the plumage of breeding birds, how little the plumage shows the effects of wear and tear during the winter. There is practically no difference between the plumage of September specimens and those taken early in the following spring.



Springs, Florida,—the type locality of *peninsulae*,—and Texas. From the last named State I have only three specimens representing the dark, west Gulf coast form, but the characters they present are shown, by comparison with Mr. McIlhenny's series of breeding birds from and near Avery's Island, La., to be typical. From a careful study of this material it appears that in fresh and unworn plumage the three forms are to be distinguished from one another chiefly by the characters set forth in the appended tabular synopsis. Here it may be briefly said that *maritimus* is greenish olive margined with bluish gray above, with the breast and flanks streaked with bluish gray and margined with buff. In *peninsulae* the upper parts are dull black margined with greenish olive, the breast and flanks being streaked with dusky black margined with buff or bluish gray, while the dark west Gulf coast form has the upper parts deep black bordered by mummy brown and margined with bluish gray, the breast and flanks being distinctly streaked with black and heavily margined with pale ochraceous.

Bearing these differences in mind we may approach the puzzling series of non-breeding birds from South Carolina and Georgia. It contains thirty-one adults and two immature (first plumage) specimens. Fifteen of the adults are perfectly typical, in color, of Long Island *maritimus*. Only one has the wing under 2.40 in., their average measurements being: wing, 2.46; tail, 2.18; bill from nostril, .45 in. They thus closely approach Long Island birds in size (see table of measurements beyond), evidence that they were winter residents from the north.

Of the remaining sixteen adults ten are intermediate between *maritimus* and *peninsulae*, most of them approaching the latter much more closely than the former. Their average measurements are: wing, 2.40; tail, 2.15; bill from nostril, .45. Nine of these birds are in Mr. Brewster's collection, seven of them being labeled by him "*peninsulae*."

I believe these birds to be resident, racial representatives of *maritimus*, marking a stage in the geographical variation in this species, which, on the west coast of Florida, appears as *peninsulae*. A specimen, evidently breeding, collected by Dr. Coues at Fort Macon, N. C., April 15, 1869 (U. S. N. M. No. 55523) is appre-

ciably darker than comparable Long Island birds and apparently indicates an approach to the *peninsulæ* type, as it is represented on the Atlantic coast by birds similar to the ten specimens first mentioned. To this intermediate, South Atlantic form of *maritimus* I refer with some confidence Brewster's breeding birds from St. Mary's, Georgia, and Robinson's breeding birds from the vicinity of St. Augustine and Matanzas Inlet, Florida. These birds, I am aware, have been referred to true *maritimus* and their plumage is in such worn condition that it is true they closely resemble, at first sight, Long Island specimens of that species. Carefully compared, however, with equally worn Long Island birds, they are grayer and more streaked below, while the lateral stripes of the crown, areas which seem least to show abrasion, are darker than in *maritimus*, being raw-umber as in *peninsulæ*, agreeing in fact, considering their abrasion, very closely in the color of this region with the ten specimens which I have spoken of as intermediate between *maritimus* and *peninsulæ*.

Accepting this identification, what shall we call this dark representative of *Ammodramus maritimus* which apparently is a permanent resident on the Atlantic coast from at least St. Augustine to Charleston? Individually they have for the most part been identified as *peninsulæ*, and while they have longer bills and are less green above and less heavily streaked below than true *peninsulæ*, they are so much nearer to this form than to *maritimus*, that I should prefer to refer them to the former rather than to the latter, or rather than to accept the alternative of giving them a name of their own.

This leaves us with six specimens of the South Carolina and Georgia series which can be referred to neither *maritimus* nor *peninsulæ*. Three of these birds are in the collection of the United States National Museum (Nos. 159387, ♀, Oct. 24, 1893; No. 159388, ♀, Oct. 27, 1893; No. 159657, ♀, Oct. 23, 1895, all taken at Mount Pleasant, So. Car.), and three are in Mr. Brewster's collection (No. 19047, ♀, Dec. 3, 1887, Sapelo Is., Ga.; No. 45753, ♂, Nov. 27, 1894 and No. 47656, ♀, April 17, 1897, Mount Pleasant, So. Car.). In the coloration of the upper parts they resemble the dark, west Gulf coast bird, but the black of the feathers of the upper parts is margined with olive

instead of mummy brown, the nape is more olive, and, with the exception of No. 159388, the breast and flanks are much less strongly streaked and less heavily washed with buffy ochraceous, the coloration of these parts agreeing with that of *peninsula*.

Apparently these two forms of Seaside Sparrow, represented by my series of ten and six birds respectively, are found breeding in the same area, a fact which is evidently proven by two birds in first or nestling plumage. One of these (U. S. Nat. Mus. No. 159389, ♂) was taken by Mr. A. T. Wayne at Mount Pleasant, So. Car., Aug. 10, 1893, and is obviously the offspring of a very dark Seaside Sparrow, being much blacker than any of a dozen New York examples in similar plumage, and in fact agreeing very well with six young birds collected by Dr. A. K. Fisher on Grand Isle, La., June 6-9, 1896. This is evidently the progeny of the dark bird just described.

The other young bird (No. 12437, Coll. Wm. Brewster) was collected by Mr. Walter Hoxie, near Frogmore, So. Car., Aug. 10, 1886. It is much lighter than the Mount Pleasant specimen, with which it agrees in age, and approaches young *maritimus* from New York, differing from it to just about the same extent and in much the same manner as do the *peninsula-maritimus* adults of this region from adult true *maritimus*. This bird is apparently the offspring of *peninsula-maritimus* parents. Hence the breeding of these birds and of the dark type in the same region is shown both by the presence of adults and their respective offspring. What their interrelationships may be, and whether they occupy different breeding areas, are questions which can be settled only by observation in the field. Specimens before me apparently show their intergradation but my material does not admit of satisfactory conclusions.

However, admitting that we have two forms, we are now confronted by the question of nomenclature. What names shall we apply to them? The *peninsula-maritimus* specimens, as I have previously said, should, in my opinion, be identified with *peninsula* rather than with *maritimus*, but what shall we call the black and gray birds? Unquestionably, it seems to me, they represent *macgillivraii* of Audubon, and while he also placed the Louisiana and Texas birds under this name, there can be no doubt that, as

Dr. Faxon had shown, he figured and described specimens collected near Charleston by Dr. Bachman. In support of this statement see Volume II, page 285 of the Ornithological Biography, on which Audubon states that Bachman presented him with a dozen specimens of this Sparrow collected near Charleston, where J. W. Audubon made the drawing which was afterward published in the fourth volume of the 'Birds of America.' No mention is made in Volume II of Texas and Louisiana, where the bird was evidently not discovered until several years later, being first recorded from these States in Volume IV, page 394, of the 'Ornithological Biography,' published in 1838, or four years after the description of '*Fringilla macgillivrayi*' from Charleston.

The specimen upon which this description was probably based is now in the U. S. Nat. Mus. (No. 2894) but is without date or locality. It is a young bird in first plumage, of the same age as the specimen taken at Mt. Pleasant, S. C., Aug. 10, 1893, from which it differs no more than do immature specimens of *maritimus* from one another.

If this view of the case be accepted it will permit us to give the Louisiana bird a name of its own, a course which the specimens involved seem to warrant. And I therefore propose to name it in honor of Dr. A. K. Fisher who, after Audubon, was the first ornithologist to secure specimens of the Louisiana bird. Hence we have

***Ammodramus maritimus fisheri*, subsp. nov.**

*Ammodramus macgillivrayi* AUD. (in part) Orn. Biog. IV, 1838, 394.

*Ammodramus maritimus macgillivrayi* RIDGW. Manual N. A. Birds, 2d Ed., 1896, App. 602.

*Ammodramus maritimus peninsulae* ALLEN (in part), Auk, V, 1888, 284.

*Ammodramus maritimus peninsulae*? CHAPM. Bull. Am. Mus. Nat. Hist., III, 1891, 324.

*Char. Subsp.*—Upper parts deep black, in fresh plumage the feathers bordered by mummy brown and margined with bluish gray, the breast and flanks streaked with black and more or less heavily washed by pale ochraceous.

Type, No. 163,722, U. S. Nat. Mus. Collected by A. K. Fisher, M. D. Collector's number No. 2622, ♀ ad., egg in oviduct, Grand Isle, Louisiana, June 9, 1886.

*Range.*—Coast of Gulf States, breeding from Grand Isle, La., westward, probably to northeastern Texas, southward in winter to Corpus Christi, Texas, and Tarpon Springs, Florida.<sup>1</sup>

In the appended table a comparison of the diagnostic characters of all the forms of the restricted *maritimus* group in fresh plumage is given. As before remarked, abrasion so alters a breeding bird's appearance that in some cases badly worn specimens are practically unidentifiable. Of the 17 breeding birds collected by Dr. Fisher on Grand Isle and by Mr. McIlhenny on and near Averys Island, all but four are more or less suffused with pale ochraceous on the breast and flanks, the most diagnostic character presented by *fisheri*, and about half the series are still more or less distinctly streaked with black below. It is in unworn plumage, however, that the differential characters of these birds are most evident, and it is on specimens in this condition that the appended table comparing the four forms of the restricted *maritimus* group is based.

TABLE OF DIAGNOSTIC CHARACTERS OF SEASIDE SPARROWS OF THE  
*Ammodramus maritimus* GROUP.

*Crown.*

*Maritimus.*—Sides olive with occasionally black shaft-streaks, median line well defined, bluish gray.

*Peninsulae.*—Sides dull black, margined with raw umber, median line ill defined, bluish gray.

*Macgillivraii.*—Sides deep black, margined with mummy brown, median line ill defined, bluish gray.

*Fisheri.*—Sides deep black, margined with mummy brown, median line ill defined, bluish gray.<sup>2</sup>

*Nape.*

*Maritimus.*—Pale greenish olive.

*Peninsulae.*—Greenish olive.

*Macgillivraii.*—Tawny olive.

*Fisheri.*—Mummy brown.

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<sup>1</sup> No. 43472, ♀, Tarpon Springs, Nov. 2, 1891. Coll. Wm. Brewster, is clearly referable to *fisheri*.

<sup>2</sup> Ridgway's 'Nomenclature of Colors' is used throughout this paper.

*Back.*

*Maritimus*.—Olive, margined by bluish gray.

*Peninsulæ*.—Dull black, margined by greenish olive.

*Macgillivraii*.—Deep black, bordered by greenish olive and margined with bluish gray.

*Fisherii*.—Deep black, bordered by mummy brown and margined by bluish gray.

*Breast.*

*Maritimus*.—Streaked with bluish gray, margined with buff.

*Peninsulæ*.—Streaked with dusky, margined with buff or bluish gray.<sup>1</sup>

*Macgillivraii*.—Streaked with dusky, margined with buff.

*Fisherii*.—Streaked with black, widely margined with pale ochraceous.

*Flanks.*

*Maritimus*.—Obscurely streaked with bluish gray and faintly washed with buff.

*Peninsulæ*.—Streaked with dusky, margined with grayish or olive buff.

*Macgillivraii*.—Streaked with dusky, margined with buff.

*Fisherii*.—Streaked with black, widely margined with pale ochraceous.

*Average measurements.*

	Wing.	Tail.	Bill from nostril.
<i>Maritimus</i> . . .	2.52	2.25	46.5 in.
<i>Peninsulæ</i> . . .	2.32	2.09	42 "
<i>Macgillivraii</i> . . .	2.36	2.18	46 "
<i>Fisherii</i> . . .	2.29	2.12	45.8 "

## A CHAPTER IN THE LIFE OF THE CANADA JAY.

BY OSCAR BIRD WARREN.

ON THE 22d of February of this year (1898), while returning from a walk to a lumber camp near Mahoning, Mich., I discovered a pair of Canada Jays (*Perisoreus canadensis*) building a nest.

<sup>1</sup> Eight of sixteen specimens have the breast more or less washed with buff.

Though on the lookout for the nest of the 'Meat Hawk' ever since its acquaintance was first formed, never before had it by any sign or action revealed its nesting place to me. Many a long walk through almost impenetrable spruce swamps, floundering in several feet of soft snow too light for snowshoeing, had been unrewarded. These birds had often been abundant around the lumber camps and in company with the Blue Jay, were common about the houses during the fall and winter months; but their breeding habits remained a secret. Therefore this discovery coming so unexpectedly after many fruitless searches was all the more joyfully received.

I was walking down the Wright-Davis railroad through a spruce swamp at the time, and had come to a place known as the 'Sink,' where a few years ago a large stretch of roadbed had suddenly disappeared in the seemingly bottomless 'Muskey' swamp, and where the track is now laid on a mass of pine and tamarac logs, the only means of support; when my attention was attracted by a flock of noisy Chickadees chasing through the trees. Looking up, what should I see but a pair of Canada Jays pulling beard moss and spider nests from some dead trees and making short trips to a neighboring live spruce about 150 feet from the railroad track, where they were evidently building a nest.

Taking a short circuit I reached a position where I could watch their movements better without attracting attention. They brought small sticks, beard moss, spider nests and strips of bark from the trees and sphagnum moss from about the base of the trees where not covered with snow, and deposited all of this in a bunch of branches at the end of a limb,—a peculiar reversed umbrella-shaped formation commonly seen in the small spruce trees, probably caused by some diseased condition of growth. The female arranged the material, pressing it into the proper shape and weaving it about the small twigs to form a safe support. Though the birds obtained the material so near, where it was abundant, yet they carefully picked up any which accidentally fell from the nest, and there were no signs of sticks or any fragments of nesting material at any time during the construction of the nest.

My first observation was short, owing to the cold weather. A

sharp wind was blowing, accompanied by a light fall of snow, and the temperature was hovering near the zero mark. Returning in a few days, I found the birds still adding to their nest and working in a manner which meant business. From this time on my visits were as frequent as opportunity permitted.

After the bulk of the nest was built the work went on more leisurely, very little being accomplished on stormy days. The birds were away feeding at the lumber camps in the morning until about 10 o'clock and went back soon after 4 P. M. They also gathered grubs from the floating logs at the 'Sink,' and I have often seen them chasing a Woodpecker away from the trees just when he had uncovered the worm he had worked so hard to dig out.

The notes of the Canada Jay are varied and pleasing, and they are as hard to identify as those of his cousin, the Blue Jay. On pleasant days the male trilled from a spruce top a song of sweetly modulated notes wholly new to my ears. He always sang in *sotto voce*, and it required an acquaintance with the songster to realize that he, though so near, was the origin of those notes which seemed to come from somewhere up in the towering pines which surrounded this strip of swamp, so lost was the melody in the whispering, murmuring voices of the pines.

By the 3d of March the nest was well formed and smoothly lined with fine grass and thin strips of bark. On the 12th it was completed, being beautifully and warmly lined with feathers picked up in the forest and representing several species of birds. Those of the Ruffed and Canada Grouse were in greatest evidence, a feather of the latter being stuck in the edge of the nest where it showed quite conspicuously. These birds had spent nearly a month building their nest, and as a result the finished abode was perfectly constructed. It was large and substantial and yet not bulky, being a model of neatness and symmetry. The bulk of the nest was composed of strips of bark, small sticks, an abundance of dry sphagnum moss, some beard moss and grass, the whole being fastened securely together by small bunches of spider nests and cocoons. The first lining was made of thin strips of bark and fine grass, and this received a heavy coating of feathers, making a nest so warm that a temperature far below



the zero mark would have no effect on the eggs it was to receive, as long as the mother brooded over them. The small twigs growing from the cluster of branches in which the nest was built gave it a rough appearance from below, but they served the purpose of secure supports and as a screen for concealment. As there were dozens of similar masses of limbs in the trees all about, a good observer might pass underneath this tree a score of times, and never see the nest, though but a few feet above his head.

The four eggs were laid between the 14th and 18th inclusive, and incubation fairly started on the 19th. The measurements, carefully taken, were as follows:  $.83 \times 1.18$ ,  $.82 \times 1.16$ ,  $.84 \times 1.16$ , and  $.83 \times 1.17$ . They were placed with the small ends all pointing in and made a pretty sight on a background of feathers of various colors. The eggs were very uniform in color, having a ground of greenish gray when fresh, the whole finely dotted and spotted with slate and brown with obscure blotches of light lavender. The bulk of the markings were grouped about the large end, forming a distinct circle of larger markings than on the balance of the egg, the lavender being more obscure and tending to run together.

From the time the nest was first discovered plans were being formulated to obtain the most good from my rare fortune. When I climbed the slender swaying tree and looked at the completed set of beautiful eggs in the deep feather lined pouch whose edges nearly met striving to protect the treasures from the frigid weather and yet colder human avarice, I will confess the evil spirit possessed me for a moment and I longed to secure these gems for my hoard, yet better judgment soon dispelled these evil thoughts. Pity for the poor birds who had begun to trust me, and a desire to allow Nature to further reveal her hidden secrets to me, overcame the narrow cravings of the egg hunter and opened the way to experiences never to be told in any language I can hope to command. Were it not that my camera caught these pictures, the scenes would have remained undescribed.

The circumference of the tree in which the nest was placed,  $11\frac{3}{4}$  ft. from the base, a point just opposite the nest, was nine inches, and but four inches five feet above this point. Less than three feet from this tree was a dead spruce, slightly smaller, on

which I nailed a few cleats to assist in climbing and as resting places while watching the birds feed their young. I fastened these trees together with heavy twine to give them mutual support. Seven feet from the nesting tree was a larger spruce which I fitted up as an observatory and camera stand and from which all my successful exposures were made.

The first picture (Fig. 1) was taken on the morning of March 25, after incubation had advanced at least six days, and the mother bird had begun to sit quite closely. The front of the camera was a little over five feet from the nest and I stood just behind the camera barely seven feet from the bird. It required the greatest amount of patience to secure this picture as the day, though fairly clear, was windy and cloudy at times. The bird seemed to leave the nest just when the light was most favorable, returning to warm the eggs, then away again for a moment, until I almost despaired of obtaining a good picture; but finally a short timed exposure was made under favorable conditions. Having a picture of the nest I next attempted to photograph the nest and eggs *in situ*, but I was unable to, as I had no means of fastening my camera in so slender a tree in a position to secure a properly focused picture, without rigging up an elaborate stand, which would have attracted the attention of passersby and resulted in the destruction of the nest. In my efforts to secure this picture I had nearly demolished the beautiful canopy which protected the nest from above and which it was necessary to remove in order to get a clear view of the nest and contents. I had also caused the poor birds much discomfort. The female was always on the nest when I came but left as soon as I had climbed the tree, uttering a loud clear alarm note, which soon brought the male soaring from over the trees to her side. Never did either give voice to a harsh, scolding note, but showed their excitement by hopping restlessly about in the tree just out of reach, raising and lowering the feathers of the head, twitching their tails and uttering in low tones several notes, among which were some which could be expressed by the syllables *koke*, *koke-ke-keer*, *keer*, *keer*. *Koke-ke-keer* (uttered quickly) is a favorite cry of this bird, and when given loudly can be heard very plainly for over a quarter of a mile.





FIG. 3. CANADA JAY FEEDING YOUNG.



FIG. 4. CANADA JAY CLEANING NEST.



FIG. 1. CANADA JAY AND NEST



FIG. 2. CANADA JAYS FEEDING YOUNG.



The mother bird often tried to enter the nest, but was unable to, as I kept the eggs warmly covered while trying to get my camera into position. The expression of anxiety in her dark eyes will never be forgotten, nor could I longer endure the sight of discomfort I was giving these helpless creatures. Repairing what damage I had done as well as I was able, I gave up this part of my plans and waited with great eagerness for the appearance of the young birds. The last egg was hatched at 5 P. M. April 4, and fortunately being on hand to assist in freeing the bird from the shell, I pocketed the two pieces and afterwards rudely fastened them together. Before descending, I noticed that there were but three young birds in the nest, the other having fallen from the nest, perhaps when the mother bird had hurriedly flown away. I found the naked youngster in the ice and snow at the foot of the tree; tenderly picking it up, it was replaced with its fellows and was alive and seemingly well on my visit two days later. The period of incubation had been between seventeen and eighteen days.

After the young were a few days old the camera was again brought into play and two negatives taken. These were made from a point further up in the tree and looking down into the nest, which gave it a flattened appearance. In the first picture the hardy young birds were dozing in the sunshine, while the mother bird watched my movements, half suspiciously, and finally left the nest after the exposure was made, returning from the opposite side, where she was joined by the male who had come with food for the nestlings. I made a snap shot (Fig. 2) when the sun was slightly obscured by a cloud, as I wished to get the two birds feeding the young together, and chances were few. On the 15th four more exposures were made, but at this time I had fastened the camera on a projecting support at a point a little higher than the nest and so close that the front was scarcely four feet from the birds. The results were much better on account of the increase in size. The weather at this time in the spring was so unfavorable that no more pictures could be taken; otherwise a few very interesting scenes could have been added.

The food given to the young was always in a soft, partially digested state, and was placed deep in the mouths of the young

by the old birds. I often watched them feeding the young when my eyes were not three feet from the birds, thus giving a chance for the closest possible observation (Fig. 3). I have held my hand on the side of the nest while the mother unconcernedly fed her babies, but I was never able to take as great liberties with the male.

During the first few days after the nestlings were born, the male brought most of the food, the female remaining at the nest and, when the male returned, assisting in giving the food to the young by putting her bill into their mouths and forcing down any troublesome morsels. As the birds grew older the female took a more active part in carrying the food. I have timed them during the feeding hours and found that they came and went about every fifteen minutes with great regularity until the young were satisfied. When the male had discharged his burden he left immediately without waiting for the return of the female, but the mother always staid until the male had returned or was in sight. The male was never seen on the nest during the period of incubation, nor afterwards, and as his color is much darker than the female's there was never any trouble in distinguishing between them, even at a distance.

The female cleaned the nest often and very carefully, keeping it perfectly free from any filth. It seems this was done both for cleanliness and for the purpose of keeping the nest dry and warm. A picture was taken of this nest cleaning operation but was unfortunately light struck (Fig. 4). It shows the four young to good advantage as they were all pushed up to the edge of the nest to allow the mother plenty of room for her work. The male always picked up any droppings which were cast over the nest and had clung to the branches, carrying all away almost every time he left the nest. By this constant care no trace of the presence of the nest was allowed at any time. It should also be added here that the young never made any noise excepting a weak chirp while with open mouths they waited their turn to be fed.

When the nestlings had their hunger appeased they took a nap, either seeking a covering under their mother's wing or basking in the sunshine. The mother finally became so accus-



tomed to my company that she also dozed perfectly at ease. The reason for this trustfulness was perhaps the natural quiet temperament of the bird, added to which was my good deportment, I being always careful to avoid frightening her by any sudden noise or movement, and I had never handled the eggs except when the measurements were taken, nor had ever touched the young birds except to save the life of the newly born infant as before referred to.

It had been my intention to secure a pair of the young when they were about large enough to leave the nest, and rear them in captivity. There was quite a heavy fall of snow on the 18th and 19th, and thinking the young would not leave the nest until the weather was pleasanter, I neglected visiting the nest until the afternoon of the 20th, and then found the side of the nest roughly torn out, by what agency I know not. The old birds were flying about and I soon found a youngster lying on the ground in the frozen mass. Picking it up I discovered that, though perfectly feathered, it was a cripple, having a twisted neck. It then occurred to me that this bird must have been the one which fell from the nest on April 4th and though in perfect condition, according to appearances, while in the nest, it was now in a helpless state. Not being able to raise this deformed bird it was killed and sent to Dr. T. S. Roberts of Minneapolis who made an examination of it and described its injury as follows: "The deformity of which you speak seemed to consist in the stiffening or partial ankylosis of the middle third of the neck. The injury sustained must have caused an inflammation between the bones of that part of the neck, this resulting in their being more or less firmly united by adhesion. Other than this no injury was detected."

Thus ended a most interesting and instructive acquaintance with this family of Jays. Though my plans had not been wholly accomplished yet I felt very thankful to Nature for her kindness in showing me one of her closest kept secrets and await an opportunity to renew my acquaintance with *Perisoreus canadensis*.

## THE GENERIC NAMES *PEDIOCÆTES* AND *POOCÆTES*.

BY THEODORE GILL.

THE two generic names, *Pediocætes* and *Poocætes*, have been much animadverted upon, but have nevertheless been adopted in the A. O. U. Check-List of North American Birds. These names were adopted because it was supposed that they were the first ones published for the genera involved. That such was not the case will be made evident. Not only were they not first published, but before publication Baird himself substituted for them names of entirely different etymology and only resembling them in superficial appearance. The substitute names were of later formation — “happy afterthoughts” — though published first in the same volume. The substitute names were also adopted generally, and not until long afterwards were the abandoned names taken up again and generally adopted.

### I.

In 1858 Baird published his great work on the ‘Birds of North America,’ under cover of the ‘Reports of Explorations and Surveys’ for a Pacific railroad, ‘volume IX.’ In the descriptive portion he introduced, as new genera *Poocætes* (p. 447) and *Pediocætes* (p. 625), but in the table of the higher groups, *preceding* the descriptive portion, he used the names *Poocætes* and *Pedivætes*, referring to the pages on which the genera were on following pages described.

It is known that Baird submitted partial proofs of his work to a correspondent and had been informed that *-cætes* was not a legitimate component, and that *-æetes* should replace it. The assumption that Baird thus submitted to has been maintained ever since. For example, Mr. Elliot, in the October (1898) number of ‘The Auk,’ has remarked (p. 295) that “neither could *πεδιον* and *οικέτης* be correctly compounded into *Pediocætes*, two blunders in one word.”

True, if the assumption were true! but *πεδιον* and *κοίτης* could be compounded into *Pediocætes* and the resultant would be a word abundantly sanctioned by classical usage. Put in italics, the difference between *Pediocætes* and *Pediocætes* is small indeed, and as Baird may never have seen the pattern name otherwise than in italics, it is no wonder that at first sight he might have mistaken the *æ* for *æ* and carried over his impressions into other fields.

## II.

Baird unquestionably modelled the names *Pediocætes* and *Poocætes* after *Ammocætes*. He suffered from obliquity of vision or mind respecting the last name and rendered it *Ammocætes* instead of *Ammocætes*: the name was so spelled in the 'Iconographic Cyclopædia' (II, 207, 208, 1851). He later (1854) based a generic name for a true frog (*Helocætes*) on the same model. Finally (1858) he coined the bird names *Nephocætes*, *Poocætes* and *Pediocætes* after the same patterns. Baird was not acquainted with Greek, and when he was informed that the bird names should have been written *Nephocetes*, *Poocetes*, and *Pedioetes*, he not unnaturally assumed that his critic was correct and altered the names correspondingly in the table of contents. But his critic was not correct, and was probably ignorant of the model Baird had used. That model was justified by a number of ancient Greek names. Two of the best known names of ichthyology were classical Greek names used for genera which are the types of distinct families — *Exocoetus*. and *Hemerocoetes*: *Exocoetus*, misapplied by Linnæus to the flying fishes, appears in the works of Theophrastus, Aelianus and Oppianus, and was a component of *ἔξω* and *κοίτη* — a fish sleeping out of the water; *Hemerocoetes*, misapplied by Cuvier and Valenciennes, to a New Zealand genus of fishes, occurs as the name of an undetermined fish in Oppian, and was a compound of *ἡμέρα*, day and *κοίτη*. Another well-known zoological name is that of a genus of Cystignathoid batrachians — *Borborocoetes*: this was literally reproduced from a designation in the 'Batrachomyomachia' translated in Liddell and Scott's Greek-English Lexicon as "mudcoucher." Still further, by a notable coincidence the name *Pediocætes* is closely

approximated by a medieval Greek name used by Maximus Planudes in his 'Anthology'—*Pedocoetes*—the only difference being that the first component of *Pedocoetes* was *πέδον*, the ground, while that of *Pediocætes* was *πεδίον*, a plain.

These examples amply justified Baird in the coining of the names in question, and the only mistake he made was in the substitution of *a* for *o*.

### III.

It will be thus seen that *Pediocætes* and *Poocætes*, by a very slight alteration, might have been corrected into *Pedicoetes* and *Pooicoetes*. As it is, through misunderstanding, names of entirely different etymology were suggested in place of them, and those very different names must be accepted. They must be accepted for the following reasons:—

1. The substitute names *Pooicetes* and *Pedioecetes* were deliberate corrections of *Poocætes* and *Pediocætes*.
2. They were published not only simultaneously with the incorrect names, but "stand first in the book."
3. They were adopted in the quarto edition of the "Catalogue of North American Birds" (Oct. 1858) and the octavo edition (1859).
4. They were in part at least accepted before the incorrectly formed names, *Pooicetes* having been adopted by Sclater in 1859 (P. Z. S., 379) and *Pedioecetes*<sup>1</sup> by Hayden in 1861 (Trans. Am. Phil. Soc., N. S. XII, 172).
5. They were generally adopted at first and only replaced later by the incorrect names.

### IV.

The data respecting the species in question given in the A. O. U. code and Check-List of N. A. Birds should be replaced by the following:—

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<sup>1</sup> Suckley also in 1861, retained the text name *Pediocætes*.

**Pedioecetes Baird.**

- Pedioecetes* BAIRD, B. N. A. 1858, xxi. (= *Pediocaetes*, p. 625).  
 308. **Pedioecetes phasianellus** (LINN.).  
*Pedioecetes phasianellus* (part.) BAIRD, B. N. A. 1858, xliv.  
 308a. **Pedioecetes phasianellus columbianus** (ORD).  
*Pedioecetes phasianellus* var. *columbianus* COUES, Key, 1872,  
 234.  
 308b. **Pedioecetes phasianellus campestris** RIDGW.  
*Pedioecetes phasianellus campestris* RIDGW. Proc. Biol. Soc.  
 Wash. II, 1884, 93.

**Poocetes Baird.**

- Poocetes* BAIRD, B. N. A. 1858, xx. (= *Pooaetes*, p. 447).  
 540. **Poocetes gramineus** (GMEL.).  
*Poocetes gramineus* BAIRD, B. N. Am. 1858, xxxix.  
 540a. **Poocetes gramineus confinis** (BAIRD).  
 [*Pooaetes gramineus*] variety *confinis* BAIRD, B. N. Am.  
 1858, 448.  
 [*Poocetes gramineus*] var. *confinis* COUES, Key, 1872, 136.  
 540b. **Poocetes gramineus affinis** (MILLER).  
*Pooaetes gramineus affinis* MILLER, Auk, V, 1888, 404.

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DESCRIPTION OF A NEW HYLOCICHLA.

BY HARRY C. OBERHOLSER.

TRUE *Hylocichla ustulata* appears to be divisible into two fairly well defined geographical races, one of which is without a name. The type of *Hylocichla ustulata* came from the Columbia River, and examination shows it to belong to the form characteristic of the Northwest Coast region. The bird inhabiting interior and southern California may therefore be called

***Hylocichla ustulata oedica*, subsp. nov.**

CHARS. SUBSP.—*Hylocichla H. u. ustulatae similis, sed hypochondriis et partibus superioribus pallidioribus ac minus rufescentibus.*

*Geographic Distribution*.—California, excepting the northern coast; north in the interior to southern Oregon; south, in winter, to Arizona and southern Mexico.

*Description*.—*Type*, male, adult, No. 79462, U. S. Nat. Mus.; Santa Barbara, California, June 25, 1875; H. W. Henshaw. Upper surface olive, the wing-quills and tail-feathers more brownish, the latter having their outer webs somewhat more grayish than the inner ones; lesser coverts and outer webs of all the other wing-feathers nearly like the back; bases of inner webs of secondaries and innermost primaries buff. Lores and eye-ring buff, the former mixed with brownish; sides of neck and head buffy, much mixed with the color of the head; sub-malar streak olive; throat and upper breast pale buff, the chin and center of throat almost immaculate; sides of throat streaked with olive; jugulum with triangular spots of the same color; remainder of under surface dull white, sparingly spotted anteriorly, the sides and flanks heavily washed with brownish gray; axillars dull brown, edged with buff. Wing, 98 mm.; tail, 78 mm.; exposed culmen, 13 mm.; tarsus, 30 mm.

*Young in first plumage*, male, No. 153944, U. S. Nat. Mus.; Santa Cruz, California, July 27, 1891; R. C. McGregor. Upper parts brownish olive, the superior tail-coverts tipped with rufous; wings fuscous, the innermost secondaries, together with outer webs of all other of the wing-feathers practically like the back; tail similar, the inner webs somewhat darker; head, neck, back, scapulars, lesser and median wing-coverts with tear-shaped spots of deep buff; sides of head and neck deep buff, mixed with the color of upper parts; sub-malar streak dull brown; chin buffy white, unspotted; jugulum and upper breast deep buff, heavily marked with brownish olive; remaining lower parts dull white, marked transversely on anterior portion with buff and pale brownish olive; sides and flanks washed with brownish olive; crissum dull buffy white; lining of wing buffy, mixed with brownish.

This new race most closely resembles *Hylocichla ustulata swainsonii*, from the eastern part of North America; so closely, in fact, that it has not infrequently been identified as such; but all records of '*swainsonii*' from California belong undoubtedly under the present form. It differs from *swainsonii* in more rufescent coloration on the flanks, sides and upper surface, this being often most noticeable on the tail and superior tail-coverts. The same characters, though much more pronounced, distinguish it from *Hylocichla u. alme*. It is usually paler than *ustulata*, and has very much less of rufous tinge to the upper surface, including both wings and tail; the sides and flanks are more grayish; the buff of jugulum somewhat paler. Although most of these

characters are not entirely constant, typical specimens may be without difficulty discriminated. There seems to be no material difference in size between any of the forms of *Hylocichla ustulata*.

Breeding specimens from Fort Klamath, Oregon, are not typical *ædica*, but are nearer this form than to *ustulata*. Birds from the northern part of the Californian coast, at least as far south as Nicasio, are intermediate and rather difficult satisfactorily to place, but they seem to be, on the whole, nearer *ustulata* than to *ædica*.

Specimens of *Hylocichla u. ædica* from the following localities have been examined, breeding records being designated by an asterisk :

California.—Santa Barbara\*; Santa Cruz\*; Panamint Mts.; San Francisco; Sacramento; Milpitas; Marysville\*; Tuolumne County\*; San Jose; Tehama; Laguna Station, San Diego County; Mountain Spring, San Diego County; Summit of Coast Range, Mex. Bound. Line, San Diego County; Jacumba, Mex. Bound. Line.

Oregon.—Fort Klamath\*.

Lower California.—Gardiners Laguna, Salton River, Mex. Bound. Line.

Arizona.—Fort Huachuca.

Mexico.—Chicharras, Chiapas.

The writer is indebted to Mr. Ridgway and to Dr. C. Hart Merriam for the use of material in the collections of the National Museum and Biological Survey, respectively.

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## DESCRIPTIONS OF NEW BIRDS FROM MEXICO.

BY E. W. NELSON.

The birds described below are from the collection of the Biological Survey, U. S. Department of Agriculture.

I am indebted to Mr. Robert Ridgway, Curator, and Dr. C. W. Richmond, Assistant Curator, of Birds, U. S. National Museum, for various courtesies while preparing the present paper.

All measurements are in millimeters.

***Colinus virginianus maculatus*, subsp. nov.**

## SPOTTED-BELLIED BOB-WHITE.

*Type*, No. 158471, ♂ ad.; U. S. National Mus., Biol. Survey Coll. Alta Mira, Tamaulipas, Mexico. Collected May 16, 1898, by E. W. Nelson and E. A. Goldman.

*Distribution*.—From Tancanhuitz, San Luis Potosi, north to Victoria and Jaumave Valley, Tamaulipas, Mexico.

*Subspecific characters*.—Similar to *C. v. texanus* from which it differs in darker and grayer colors of dorsal surface and chestnut and spotted lower surface.

*Color of Male*.—Chin, throat and broad stripe from lores back over eye to nape white. Crown and nape black, with gray and brown edges to feathers on back of crown and nape. A well defined band of black extends from bill back below eyes and across neck, bordering white throat area. Feathers on back and sides of neck black, edged near tips with white and dull rufous. Feathers of shoulders dull rufous heavily marked with irregular black and gray cross bars and edgings. Rest of back and tertials blackish with gray and brown mottling and indistinct barring. Wing-coverts dull rufous with black bars and gray edges. Lower neck and fore part of breast usually plain dull rufous, rest of lower parts, including lower tail-coverts, of the same color heavily marked on borders of feathers, with black and white spots on sides of feathers near tips.

*Dimensions of type*.—Wing, 106; tail, 60; culmen, 13; tarsus, 31.

*Remarks*.—Compared with *C. texanus* the female is decidedly darker and grayer above with a better defined pectoral band of black, dull rufous and white markings just below buffy throat patch. The series at hand shows conclusively that *C. v. texanus* grades through the present bird directly into *O. graysoni*, thus reducing the latter to a subspecies of *O. virginianus*.

***Callipepla gambeli fulvipectus*, subsp. nov.**

## BUFF-BREASTED PARTRIDGE.

*Type*, No. 164093, ♂ ad., U. S. Nat. Mus., Biol. Survey Coll. Camoa, Rio Mayo, Sonora, Mexico. Collected Nov. 7, 1898, by E. A. Goldman.

*Distribution*.—Southwestern Sonora, Mexico.

*Subspecific characters*.—Differs mainly from typical *C. gambeli* in its generally darker or more intense colors and larger bill.

*Color*.—Crown patch rich burnt umber; neck olive washed; breast



patch dark buffy; abdomen dark buffy and feathers on posterior part of flanks and under tail-coverts, bordered with same.

*Dimensions of type.* — Wing, 110; tail, 96; culmen, 11; tarsus, 30.

*Remarks.* — Dr. A. K. Fisher has traced Gambel's route and finds that the type of *Callipepla gambeli*, which is recorded as having been taken November 18, "some distance West [error for East] of California," must have been secured in southern Nevada or immediately adjacent part of eastern California. My comparisons, establishing the form described above, have been with specimens from the region of the type locality. Birds from southern Arizona also are typical *gambeli*.

***Aphelocoma sieberi colimæ*, subsp. nov.**

COLIMA JAY.

*Type*, No. 156052, ♀ ad., U. S. Nat. Mus., Biol. Survey Coll. From Jalaca, Jalisco, Mexico. Collected March 6, 1897 by E. W. Nelson and E. A. Goldman.

*Distribution.* — Pine and oak forests from the Sierra Nevada de Colima north to the Santiago River in Jalisco, western Mexico.

*Subspecific characters.* — Similar to *A. sieberi* but smaller, with a lighter shade of blue on dorsal surface, grayer back and paler lower surface on which there is a dingy brownish wash as in *A. couchi*.

*Color.* — Top and sides of head and neck, with upper surface of wings, rump and tail, azure blue; chin and throat dingy grayish white with fine black shaft streaks and shading into dingy gray on breast and thence to dingy whitish on abdomen; under tail-coverts dingy whitish with faint gloss of blue.

*Dimensions of type.* — Wing, 173; tail, 156; culmen, 25; tarsus, 43.

***Aphelocoma sieberi potosina*, subsp. nov.**

SAN LUIS POTOSI JAY.

*Type*, No. 144642, ♂ ad., U. S. Nat. Mus., Biol. Survey Coll. Mountains near Jesus Maria, San Luis Potosi, Mexico. Collected by E. W. Nelson, Sept. 3, 1892.

*Distribution.* — Scrubby pine and oak forest on arid mountains of the tableland in northern Queretaro, Guanajuato, San Luis Potosi, eastern Zacatecas, Coahuila and southern border of Nuevo Leon, Mexico.

*Subspecific characters.* — Similar to *A. sieberi* but smaller, with larger

bill, paler or lighter shade of blue on dorsal surface and grayer on throat and breast.

*Color.*—Top and sides of head, neck and rump azure blue; upper surface of wings and tail a duller shade of same, back azure blue washed with ashy. Lower surface from chin to crissum dull ashy thinly washed with blue and shading into white of entire crissum.

*Dimensions of type.*—Wing, 170; tail, 148; culmen, 29; tarsus, 46.

*Remarks.*—In western-central Zacatecas this form is found intergrading with *A. gracilis* Miller, and the latter therefore becomes a race of *A. seiberi*. Compared with *A. couchi* the form described above is larger, more bluish on middle of back, and the lower surface is grayer.

### ***Pachyrhamphus major uropygialis*, subsp. nov.**

#### SINALOA *PACHYRHAMPHUS*.<sup>1</sup>

*Type*, No. 157150, ♂ ad., U. S. Nat. Mus., Biol. Survey Coll. Plomosas, Sinaloa, Mexico. Collected July 14, 1897 by E. W. Nelson and E. A. Goldman.

*Distribution.*—Western slope of Sierra Madre in Sinaloa and Tepic, Mexico.

*Subspecific characters.*—Similar to *Pachyrhamphus major* from which it may be distinguished by the distinctly paler rump (lateral upper tail-coverts are nearly white); the paler lower surface of body and larger size.

*Dimensions of type.*—Wing, 86; tail, 65; culmen, 15; tarsus, 22. Average of 3 ad. ♂s of *P. major* (topotypes from Jalapa, Vera Cruz, Mexico): Wing, 81; tail, 62.7; culmen, 15; tarsus, 21.

### ***Melospiza adusta*, sp. nov.**

#### MICHOACAN SONG SPARROW.

*Type*, No. 144046, ♂ ad., U. S. Nat. Mus., Biol. Survey Coll. Patzcuaro, Michoacan, Mexico. Collected July 27, 1892 by E. W. Nelson and E. A. Goldman.

*Distribution.*—Known only from vicinity of Patzcuaro, Michoacan, Mexico.

*Subspecific characters.*—Similar to but a little smaller than *Melospiza*

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<sup>1</sup> I am indebted to Dr. J. A. Allen, Curator of Mammals and Birds in the Am. Mus. Nat. Hist., New York, for the loan of five topotypes of *P. major*, collected by Mr. F. M. Chapman at Jalapa, Vera Cruz, Mex.

*mexicana* from which it differs also in being decidedly lighter and more rusty rufous on borders of feathers on entire dorsal surface, including wings. On sides of head the dark markings are suffused with rusty brown and the white markings have a slight wash of pale buffy.

*Dimensions of type.*—Wing, 67; tail, 64; culmen, 11; tarsus, 23.

*Remarks.*—The young in first plumage are readily distinguished from those of *mexicana* by being more rufous above, more buffy below and by the restriction of black shaft markings below, mainly to breast and sides of neck, leaving the rest of under surface almost unmarked buffy whitish. This form is based on two adults and one young of the year.

### ***Melospiza goldmani*, sp. nov.**

#### **GOLDMAN'S SONG SPARROW.**

*Type*, No. 159182, ♀ ad., U. S. Nat. Mus., Biol. Survey Coll. El Salto, Durango, Mexico. Collected July 17, 1898 by E. W. Nelson and E. A. Goldman.

*Distribution.*—Sierra Madre Mts., western Durango, Mexico.

*Specific characters.*—This species is considerably larger and grayer than either *M. mexicana* or *M. adusta*.

*Color.*—Feathers on top of head and nape dull vandyke brown with narrow shaft lines of black, and dull grayish edges on crown; feathers on shoulders and fore part of back brighter vandyke brown with narrow black shaft streaks and grayish edges; rump and upper tail-coverts dingy vandyke brown, slightly more rufous on coverts. Wing-coverts like middle of back without gray edges to feathers; rufous on secondary coverts brighter than on back; quills clove brown edged with dull vandyke brown; tail clove brown washed externally with dull rufous brown. Superciliary stripe ashy white; postocular and malar stripes, and streaks on ashy whitish cheeks and ear coverts, dark rufous brown. Throat and middle of abdomen whitish; sides of breast and sides of neck with small shaft spots of blackish, washed with dark rufous brown. Feathers on flanks dingy rufous brown edged with dull grayish brown.

*Dimensions of type.*—Wing, 75; tail, 77; culmen, 12; tarsus, 23.

*Remarks.*—The young are paler or grayer on dorsal surface than *M. mexicana* and much lighter and less heavily streaked below. This form is based on 2 adults and one young compared with a series of over 20 specimens of *M. mexicana*.

***Spizella socialis mexicana*, subsp. nov.**

## MEXICAN CHIPPING SPARROW.

*Type*, No. 143975, ♂ ad., U. S. Nat. Mus., Biol. Survey Coll. From San Cristobal, Chiapas, Mexico. Collected Sept. 24, 1895, by E. W. Nelson and E. A. Goldman.

*Distribution*.—Highlands of southern Mexico from Sierra Madre of Jalisco and Cofre de Perote, Vera Cruz, Mexico, south through Chiapas to border of Guatemala.

*Subspecific characters*.—Differs from *S. socialis* in generally larger size and darker and more rufous color on back.

*Color of type* (in winter plumage).—Crown dark, almost chestnut, rufous overlaid with black shaft lines and dull buffy brown edge to feathers near tips; back heavily streaked with black, chestnut brown and dull buffy brown; rump plumbeous ashy indistinctly streaked with diffused blackish shaft lines; ear coverts dingy brown; chin dingy whitish; throat, neck and breast dark ashy; crissum white; flanks ashy thinly washed with brown.

*Dimensions of type*.—Wing, 72; tail, 59; culmen, 10; tarsus, 17.

*Remarks*.—Mr. Ridgway has examined the type of *Spizella pinetorum* and refers to that form a specimen from Honduras which is decidedly darker colored and smaller than the form described above. *S. pinetorum* appears to be a race of *S. socialis* ranging through the parts of Guatemala lying east of the central highlands and thence into similar country in Honduras. From *S. s. arizone* the form described above may be distinguished by its much darker colors, slightly smaller size and larger bill.

***Vireo noveboracensis micrus*, subsp. nov.**

## SMALL WHITE-EYED VIREO.

*Type*, No. 158930, ♂ ad., U. S. National Mus., Biol. Survey Coll. Victoria, Tamaulipas, Mexico. Collected May 23, 1898 by E. W. Nelson and E. A. Goldman.

*Distribution*.—Lowlands of Tamaulipas, Mexico.

*Subspecific characters*.—Similar to *V. noveboracensis* but smaller and duller colored with a paler wash of yellow on flanks.

*Dimensions of type*.—Wing, 58; tail, 50; culmen, 10; tarsus, 20.

***Geothlypis flaviceps*, sp. nov.**

**YELLOW-HEADED WARBLER.**

*Type*, No. 158741, ♂ ad., U. S. National Mus., Biological Survey Coll. From Alta Mira, Tamaulipas, Mexico. Collected April 20, 1898 by E. W. Nelson and E. A. Goldman.

*Distribution*.—Tulé marshes along coast lagoons near Tampico in southern Tamaulipas and northern Vera Cruz, Mexico.

*Description of type*.—Color: A broad black mask from bill to line back of orbits on crown and thence down over cheeks and ear coverts to sides of neck; rest of top and sides of head and nape distinctly yellow, slightly washed with olive green posteriorly. Back, including upper surface of wings and tail olive green. Entire lower surface almost uniform gamboge yellow, only a little duller on flanks.

*Dimensions of type*.—Wing, 60; tail, 56; culmen, 15; tarsus, 21.

*Remarks*.—This species is closely related to Mr. Ridgway's *G. flavovelatus*, also described from Alta Mira, but may be distinguished at once from that species by its larger bill, greater extent of yellow on top of head and deeper yellow under surface. The type of *G. flavovelatus* was taken in December and was probably a migrant from farther north while my specimens were taken in April and May and were undoubtedly resident birds. Dimensions of *G. flavovelatus*: Wing, 53; tail, 54; culmen, 12; tarsus, 21.

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**A SYNOPSIS OF THE BLUE HONEY-CREEPERS OF  
TROPICAL AMERICA.**

BY HARRY C. OBERHOLSER.

THIS very homogeneous group of Cœrebidæ has by some authors been called *Cœreba*, by some *Caereba*, by others *Arbelorhina*, but unfortunately none of these names is properly applicable to the genus. As Mr. Ridgway has already shown<sup>1</sup> the

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<sup>1</sup> Manual of N. Amer. Birds, 1887, 590.

name *Cæreba* Vieillot<sup>1</sup> can not be used for this group, since the only recognized<sup>2</sup> species mentioned in the original diagnosis is *Certhia flaveola* Linn., which must therefore necessarily be the type; the term *Cæreba* thus supplanting the more recent *Certhiola* Sundevall. *Caereba* of Vigors<sup>3</sup> is merely an emendation, accidental or otherwise, of Vieillot's *Coereba*, and therefore identical in application. *Arbelorhina* was proposed by Cabanis<sup>4</sup> simply to replace *Cæreba*,—"Den regelwidrigen Namen *Caereba* haben wir in *Arbelorhina* umgeändert." That the same author subsequently sought<sup>5</sup> to restrict *Arbelorhina* to the group at present under consideration can, of course, not in the least alter the case, and *Arbelorhina* must be considered a strict synonym of *Cæreba*. As this disposition leaves the Blue Creepers without a generic name<sup>6</sup>, it is proposed that they be called

### **Cyanerpes,**<sup>7</sup> gen. nov.

*Cæreba* AUCT., nec VIEILLOT, 1807.

*Cæreba* AUCT., nec VIGORS, 1825.

*Arbelorhina* AUCT., nec CABANIS, 1847.

*Arbelorhina* CABANIS, 1850.

Type, *Certhia cyanea* Linnæus.

CHARS. GEN.—Genus generi 'Chlorophanes' dicto similis, sed rostro multo graciliore et magis incurvato dignoscendum.

*Geographic Distribution.*—Neotropical Region, from Cuba and southern Mexico to southern Brazil.

### **Cyanerpes cyaneus** (Linnæus).

*Certhia cyanea* LINNÆUS, Syst. Nat. ed. 12, 1766, I, 188.

? *Certhia flavipes* GMELIN, Syst. Nat., 1788, I, i, 472.

? *Certhia cyanogastra* LATHAM, Ind. Orn. 1790, I, 295.

<sup>1</sup> Ois. Amer. Sept., 1807, II, 70.

<sup>2</sup> *C. bananivora* (Gmel.) is also noticed but is referred to *flaveola*.

<sup>3</sup> Zool. Journ., Oct., 1825, 401.

<sup>4</sup> Archiv für Naturg., 1847, I, pt. i, 325.

<sup>5</sup> Mus. Hein., 1850, I, 96.

<sup>6</sup> *Guitus* Rafinesque, Analyse. 1815, 68, is a nomen nudum.

<sup>7</sup> κύανος = cyaneus, + ἔρπης.

*Coereba cyanea* VIEILLOT, Nouv. Dict. d'Hist. Nat., 1817, XIV, 44.

*Arbelorhina cyanea* CABANIS, in Schomb. Reise in Brit. Guiana, 1848, III, 675.

*Geog. Dist.*—South America, from southern Brazil and Bolivia to Trinidad and central Colombia.

### ***Cyanerpes cyaneus carneipes* (Sclater).**

*Cæreba carneipes* SCLATER, P. Z. S., 1859, 376.

*Geog. Dist.*—Central America, from southern Mexico to Panama.

This race differs from typical *cyaneus* in the color of the *females*, which are noticeably darker and more yellowish green below.

### ***Cyanerpes cyaneus brevipes* (Cabanis).**

*Arbelorhina brevipes* CABANIS, Mus. Hein., 1850, I, 96.

*Arbelorhina eximia* CABANIS, Mus. Hein., 1850, I, 96.

*Coereba brevipes* REICHENBACH, Handb. Spec. Orn., 1851, 237.

*Coereba eximia* REICHENBACH, Handb. Spec. Orn., 1851, 237.

*Arbelorhina cyanea eximia* ROBINSON, Proc. U. S. Nat. Mus., 1895, XVIII, 679.

*Geog. Dist.*—Caribbean coast of Colombia and Venezuela; islands of Cuba and Tobago.

This form, whenever recognized, has usually been called *eximia*; but the name *brevipes* undoubtedly applies to the same bird, being from the same locality; and, as it stands first on the page, should be adopted. Although Cabanis states his *Arbelorhina brevipes* to be smaller than *cyaneus*, whereas his *Arbelorhina eximia* is larger, this discrepancy can apparently be accounted for by individual variation,—in fact, to the difference in length of bill among specimens from the mainland of Venezuela, Dr. C. W. Richmond has already called attention<sup>1</sup>.

From *cyaneus* proper the present race may be distinguished by the darker, more yellowish color of the lower surface in the females; and from both *cyaneus* and *carneipes* by the considerably greater length of bill.

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<sup>1</sup> Proc. U. S. Nat. Mus., 1895, XVIII, 680.

**Cyanerpes cæruleus (Linnaeus).***Certhia cærulea* LINNÆUS, Syst. Nat. ed. 10, 1758, I, 118.*Certhia ochrochlora* GMELIN, Syst. Nat., 1788, I, i, 472.*Certhia surinamensis* LATHAM, Ind. Orn., 1790, I, 295.*Coereba cærulea* VIEILLOT, Nouv. Dict. d'Hist. Nat., 1817, XIV, 45.*Arbelorkhina cærulea* CABANIS, in Schomb. Reise in Brit. Guiana, 1848, III, 675.*Arbelorkhina brevirostris* CABANIS, Mus. Hein., 1850, I, 96.*Cæreba brevirostris* SCLATER, Cat. Coll. Amer. Birds, 1861, 53.*Coereba coerulea microrhyncha* BERLEPSCH, Journ. f. Orn., 1884, 287.*Arbelorkhina cærulea microrhyncha* BANGS, Proc. Biol. Soc. Wash., 1898, XII, 143.*Geog. Dist.*—South America, from Bolivia to Colombia, Venezuela and British Guiana.

Material now at hand does not seem to warrant the recognition of a subspecies *microrhyncha*; but should this form eventually prove distinct it ought probably to bear the name *brevirostris* Cabanis.

**Cyanerpes cæruleus longirostris (Cabanis).***Arbelorkhina longirostris* (err. typ.) CABANIS, Mus. Hein., 1850, I, 96.*Coereba longirostris* FINCH, P. Z. S., 1870, 561.*Geog. Dist.*—Trinidad and the coast of Venezuela from Caracas eastward.

There seems to be little doubt that the birds from Trinidad are identical with those from Caracas, whence came the type of *Arbelorkhina longirostris* Cabanis; but should this prove not to be the case the Trinidad form will require to be named. The present subspecific distinction is based on Trinidad specimens, which differ from true *cæruleus* of Guiana chiefly in the conspicuously greater length of bill.

**Cyanerpes lucidus (Sclater & Salvin).***Cæreba lucida* SCLATER & SALVIN, Ibis, 1859, 14.*Arbelorkhina lucida* HEINE & REICHENOW, Nom. Mus. Hein. Orn., 1882, 60.*Geog. Dist.*—Central America, from Guatemala to Panama.



Closely allied to *cæruleus*, but apparently a distinct species.

**Cyanerpes nitidus (Hartlaub).**

*Coereba nitida* HARTLAUB, Rev. Zool., 1847, 84.

*Arbelorkhina nitida* CABANIS, Mus. Hein., 1850, I, 96.

*Geog. Dist.*—Province of Amazonas, in Brazil; northeastern Peru, eastern Ecuador, and southeastern Colombia to Bogota.

The writer is under obligations to the authorities of the National Museum and of the American Museum of Natural History, for the use of the specimens upon which this paper has been based.

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NEW SPECIES, ETC., OF AMERICAN BIRDS.—III.  
FRINGILLIDÆ (Continued)<sup>1</sup>.

BY ROBERT RIDGWAY.

*Curator of the Division of Birds, U. S. National Museum.*

(By permission of the Secretary of the Smithsonian Institution.)

**Melospiza fasciata cooperi.** SAN DIEGO SONG SPARROW.

Similar to *M. f. heermanni* but slightly smaller and coloration much lighter and grayer; prevailing color of back, etc., grayish olive, the back broadly streaked with black, these streaks with little if any rusty edging.

*Adult male*: wing, 2.30–2.66 (2.48); tail, 2.19–2.68 (2.49); exposed culmen, 0.44–0.52 (0.48); depth of bill at base, 0.29–0.31 (0.29); tarsus, 0.80–0.89 (0.86).

*Type*, No. 51895, U. S. Nat. Mus., adult, San Diego, California, April 18, 1862; Dr. J. G. Cooper.

*Range*.—Southern coast district of California (north to Monterey Bay, east to Ft. Tejon, San Bernardino, etc.) and northern Pacific coast of Lower California (south to San Quentin Bay).

**Melospiza fasciata pusillula.** SALT MARSH SONG SPARROW.

Similar to *M. f. samuelis* but still smaller, the wings and tail especially; coloration much less rusty (more olivaceous) above, with superciliary stripe and under parts more or less tinged with yellowish, the latter

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<sup>1</sup> Part II was published in 'The Auk' for October, 1898 (pp. 319–324).

never (?) pure white. *Adult male*: wing, 2.24–2.37 (2.29); tail, 2.11–2.26 (2.16); exposed culmen, 0.46–0.48 (0.47); depth of bill at base, 0.24–0.26 (0.25); tarsus, 0.80–0.83 (0.82).

*Type*, No. 105324, U. S. Nat. Mus., ♂ ad., Alameda Co., California, April 18, 1885; W. O. Emerson.

*Range*.—Salt marshes of San Francisco Bay (Alameda, Santa Clara, and San Mateo counties).

### ***Melospiza fasciata caurina*. YAKUTAT SONG SPARROW.**

Similar to *M. f. rufina* but with decidedly longer bill and grayer coloration; the superciliary stripe, middle portion of auricular region, sides of neck, hindneck, and edges of interscapulars decidedly gray, in more or less strong contrast with the brown markings; streaks on chest, etc., dark seal brown, and ground color of flanks olive-grayish. *Adult male*: Wing, 2.90–3.15 (3.03); tail, 2.81–2.86 (2.84); exposed culmen, 0.56; depth of bill at base, 0.30; tarsus, 0.92–1.02 (0.97).

*Type*, No. 138367, U. S. Nat. Mus. (Biol. Surv. Coll.), ♂ ad., Yakutat, Alaska, July 6, 1895; C. P. Streator.

*Range*.—Coast of middle Alaska, from Cook's Inlet (Port Graham, Ft. Alexander, etc.) to Cross Sound; in winter to southern Alaska (Howcan, Prince of Wales Island, one specimen).

### ***Passerella iliaca fuliginosa*. SOOTY FOX SPARROW.**

Similar to *P. i. townsendi* but darker and less rufescent, the upper parts, sides of head and neck and lateral under parts sepia or sooty brown, the upper tail-coverts and tail slightly more castaneous; spots on under parts dark sooty brown, larger and more confluent than in other forms.

*Type*, No. 157611, U. S. Nat. Mus. (Biol. Surv. Coll.), ♂ ad., Neah Bay, Washington, June 10, 1897; E. A. Preble.

*Range*.—Breeding in coast district of southwestern British Columbia, including Vancouver Island, and northwestern Washington; south in winter to coast of northern California (to San Francisco, etc.). (*P. i. townsendi* breeds in the Sitka district; *P. i. unalaschensis* breeds on Kadiak Island and adjacent mainland of Alaska, but migrates much farther south than the other two forms, being the only one occurring commonly over the greater part of California.)

### ***Zonotrichia leucophrys nuttalli*. NUTTALL'S SPARROW.**

*Zonotrichia gambeli* and *Z. leucophrys gambeli*, Auct. nec *Fringilla gambelii* NUTTALL.

When, in 1873, I separated the lighter colored form of this species of the more northern and interior districts from the darker coast form, under the name of *Zonotrichia leucophrys* var. *intermedia*, I erred in restricting the name *gambelii* to the coast form.

A recent examination of extensive material, including specimens from the type locality of *Fringilla gambelii* (Walla Walla, Washington), has convinced me that Nuttall's bird was really the interior form, although his description, mainly ambiguous, alone would lead one, as it did me, to suppose that he had the darker of the two forms in hand. His type was a fall bird, in the plumage of the young in first winter, his reason for considering it a new species being, apparently, that the corresponding plumage of *Z. leucophrys* was unknown to him. It seems necessary, therefore, to use the name *Zonotrichia leucophrys gambelii*, Gambel's Sparrow, for the form which we have been calling *Z. l. intermedia*, Intermediate Sparrow, and to give a new name to the coast form, which may be called *Z. l. nuttalli*, Nuttall's Sparrow, as above.

***Sicalis chapmani*. CHAPMAN'S GOLDEN BUNTING.**

*Sycalis minor* (nec CABANIS) CHAPMAN, Auk, VII, 1890, 268 (Santarem etc.; crit.).

Somewhat like *S. arvensis* but bill much larger, with more strongly curved culmen, under parts much brighter yellow (bright lemon yellow) and upper parts much more yellowish, even the back, in adult males, being olive-yellow broadly streaked with blackish. *Adult male*: Wing, 2.62-2.72; tail, 1.80-1.90; exposed culmen, 0.41; tarsus, 0.65-0.70.

*Type*, No. 120835, U. S. Nat. Mus., ♂ ad., Diamantina, Lower Amazon, June 25, 1887; C. B. Riker.

*Range*.—Lower Amazon Valley (Santarem, Diamantina, etc.).

***Spinus alleni*. ALLEN'S GOLDFINCH.**

*Spinus yarrelli* (nec *Carduelis yarrelli* AUDUBON) ALLEN, Bull. Am. Mus. Nat. Hist. III, 1891, 375 (Chapada).

Similar to *S. capitalis* (Cab.) but adult male with lower rump clear yellow, under parts purer yellow, femoral region yellow (instead of white), edges of tertials olive-yellow (instead of grayish), and size somewhat less. Differing from *S. ictericus* (Licht.) in much smaller size, narrower wing-bands, and relatively less extent of yellowish on basal portion of tail, the latter quite concealed by the coverts. *Adult male*: Wing, 2.58-2.65 (2.61); tail, 1.56-1.58 (1.57); exposed culmen, 0.40-0.41; depth of bill at base, 0.30-0.31; tarsus, 0.51-0.53 (0.52); middle toe, 0.40-0.45 (0.42).

*Type*, No. 32618, ♂ ad., Am. Mus. Nat. Hist., Chapada, Matto Grosso, Brazil, May 21, 1883; H. H. Smith.

*Range*.—Southwestern Brazil (Province of Matto Grosso).

TRUTH *VERSUS* ERROR.

BY D. G. ELLIOT F. R. S. E.

IN HIS defence of Canon XL of the A. O. U. Code, my friend Dr. Allen has accused me, half heartedly it must be confessed, and as if he was not quite sure of his premises, of misrepresenting the beauties and advantages of that wonderful production, and also the beneficial results, which in his opinion, the enlightened doctrine it preaches has achieved. If I was capable of committing the crime so delicately mentioned (and I hardly deem it necessary to defend myself from the charge), in this instance, it would be as profitless and unnecessary as an attempt to blacken coal, for it would be quite impossible with all the skill possessed by the most adroit manipulator to make the Gospel of Error this Canon advocates appear in a more unlovely aspect than it has itself so successfully accomplished. The charge made of misrepresentation, however, is the familiar plea of all those who try to defend an indefensible cause, and is synonymous with the legal maxim "when you have no case, abuse the opposing Counsel." Stability and uniformity of nomenclature is the goal which all naturalists are striving to attain, and after fifteen years, during which this Canon has been permitted to instill its pernicious counsel in the minds of ornithologists entirely unopposed, yet all the success that Dr. Allen can claim it has achieved is, that "it has practically thus far rendered fixed and permanent the nomenclature of North American ornithology, in *North America at least*," and thereupon he qualifies this by adding "in so far as the emendation or rejection of names upon purely philological grounds is concerned." The after-thought, italicised by me above, was most happily grasped by its author, and thus he saved himself from a disastrous overthrow. It is also stated that "so nearly all the leading authorities in vertebrate zoölogy in this country" are among its supporters and advocates. "So nearly all" while a very safe way of enumerating, is not any more definite as regards numbers than is the expression "few" applied to those "leading authorities" whom Dr. Allen kindly permits to join Dr. Coues and myself in rejecting this Canon.

In not including among his sympathizers the experts in invertebrate zoölogy, I suppose Dr. Allen attributes their defection entirely to a lack of backbone, which would not permit them a sufficient rigidity to be wrong when they could be right! My friendly critic did not care, in his assertion of the success Canon XL has achieved, to go beyond the boundaries of the United States, save to make a faint claim of having converted some "Naturalists abroad being well aware that the doctrine that advocates adopting not only every blunder that is in sight, but also every one that shall be made hereafter, is not one likely to find favor with those who have been taught from their childhood to write grammatically and spell correctly. Excepting in the case of "so nearly all the leading authorities, at least in North America," how has this educational Canon succeeded in other lands? The authors of the Great Catalogue of Birds, which for many years to come will be the standard work in Ornithology, have throughout the long series of volumes already issued, with an unanimity that was to be expected, completely ignored and repudiated this Canon XL, and have not permitted the blunders of other writers to disfigure their productions. These gentlemen are the recognized "leading authorities" in ornithological science in the Old World, both on account of their scientific as well as their literary attainments, and as "educated men" versed in classical knowledge and grammatical construction, it can never be expected that even a conformity of nomenclature can be established if it depends upon their endorsement of the doctrine embodied in Canon XL. Where then is stability of nomenclature to be looked for? Is it to be confined "at least to North America?" Is the avifauna of this country so great and paramount that we can build a Chinese wall along our borders and have a nomenclature all our very own and be quite independent of those who are not so happy as to live among us? The Birds of North America, numerous and splendid as they are, constitute only a fraction of those of the world, and a stable nomenclature for our feathered inhabitants can only be assured by coöperating with ornithologists of other lands. And it requires no prophet to foretell that some other basis will be necessary than the tenets offered by Canon XL before any agreement will be reached.

"In North America at least" everything is not lovely and serene. There are a "few!" even Dr. Allen admits that much, who with Dr. Coues and myself refuse to bow the knee to Baal. We may be of little repute, but so long as we insist upon writing grammatically and spelling correctly there can be no uniformity in the nomenclature of North American ornithology, in spite of the fact that "so nearly all" of the "leading authorities," will hereafter do their best to perpetuate blunders. If, as is claimed, the "leading authorities" among American ornithologists have nearly all become advocates of the doctrine of error preached in Canon XL we must not forget that some of them were members of the Committee that formulated its provisions, and it was to be expected that they would do their utmost, like my friendly critic, to induce others to adopt these and enjoy the manifold blessings they shower on thankful hearts. Only one of the Committee has publicly expressed his disapproval of this rule. Possibly there are others of his opinion but who have not yet spoken. If among those who as yet have not attained the dignity of being a "leading authority," there are some who have accepted this Canon as their mentor and guide, it is probable that they have been influenced in a large degree so to do from a mistaken loyalty to the Union. This same mistaken loyalty to the works of the Committee caused the adoption of our Check-List, when it was known to contain many, even grievous errors, certain of which have lately been corrected, but the end is not yet. A similar exhibition of courage in removing blunders and which should eliminate Canon XL, would be advantageous to the Union and Ornithological Science. Dr. Allen seems considerably elated because other Naturalists as he claims besides ornithologists have in some degree adopted this Gospel of Error. While we may all be gratified to witness the A. O. U. Code accepted by other zoölogists in all its provisions, excepting Canon XL, and believe it the best guide they can have, we must not lose sight of the fact that the Code was written primarily for ornithologists, and one of its chief aims was the attainment of a stable nomenclature for birds. Therefore, if one of its Canons proves to have been unfortunately drawn, and contains precepts that will effectually defeat the very object desired, it is poor comfort to learn

that we have only succeeded in leading our brethren astray. Moreover it was Ornithological nomenclature we desired to render stable before all else, and what zoölogists, devoted to other branches, may do, neither helps nor harms us. If we are right, it matters not to ornithology if those in other branches go wrong, nor does it help us when we go wrong if they all follow our example, save on the principle that "misery loves company." The Code is not so sacred an instrument as I fear Dr. Allen regards it, that it may not be emended, even by the unhallowed efforts of Purists and Classicists. The pity of it is that any of its Canons so urgently require correction. Dr. Allen appears greatly disturbed at some of my remarks upon faulty construction and bad spelling, and assures us that there have been many authors who have endorsed Canon XL who know how to spell in as many languages as I and my "few" sympathizers do. While delighted to be informed that this knowledge is so widespread that even some "eminent authors" have acquired it, I would however beg to state that I am not aware that in anything I have said I have made claim to a special knowledge of any language, or of being unusually proficient in orthography or etymology, nor has anything that I have written been directed against any particular individual, be he a "leading authority" or of more humble station. My article in the October number of this journal had but one object in view, to call the attention of the members of the Union to the Gospel of Error taught in Canon XL, which in my opinion (and according to Dr. Allen, a 'few others,' but I only speak for myself), is thoroughly bad, and in some respects calculated to lead many astray by its teachings. Thoroughly bad, because it strives to elevate Error over Truth and Wrong over Right, and gives to the law of priority an interpretation that was never intended, for while this law protects an author in his discoveries, there is no clause that provides a safeguard for his blunders. And the teachings of this Canon are evil because they misdirect those, who, whatever may be the reason that actuates them, prefer to follow some leader depending on his knowledge or experience, and there are many such, little heeding where their guide may take them, rather than investigate for themselves.

Dr. Allen thinks it "too absurd for serious consideration," the charge that this Canon XL places a premium upon illiteracy, and yet what are the facts? It provides for the retention of names no matter how ridiculous they may be, nor how grossly they may violate all rules of orthography and etymology, and then assures all those who may commit such blunders that they shall be perpetuated. That is clearly offering a premium on illiteracy, for a writer would doubtless feel that even though he tried earnestly to have his production free from blunders, yet it would not matter, if he was not up in his Greek and Latin, for his errors if he made any, would stand in the place of honor side by side with those words that were correct in construction. It is true that the rule ends with some good advice such as, "word coiners will pay the closest attention to philological proprieties," but if any are ignorant of these proprieties, attention to them, no matter how densely concentrated, would be of little avail. And Dr. Allen in his glorification of this rule says that the rising generation of naturalist have not "perceptibly deteriorated" in their spelling. The "rising generation" will no doubt return thanks for so much praise. If, however, they have not "perceptibly deteriorated" it is not the fault of Canon XL which tells them they can be careless with impunity, but because the facilities for instruction afforded by this Age enables every one to acquire an education, therefore, the blunders in nomenclature become more and more obnoxious, and the precepts of this Canon more and more distasteful.

One of the principal objections to amending Canon XL urged by Dr. Allen in his 'Defense,' as I gather from reading it, is the great number of blunders that exists in ornithological nomenclature, and he fears that I do not appreciate what a task it would be to overcome them. It is a poor soldier who throws down his weapons because the enemy appears formidable, and in spite of multitudes it is quite unnecessary to follow the example of the Advocates of Error and take refuge in the opposing ranks. Run over to the enemy in fact! The difficulties of the task are more fictitious than real, and would speedily vanish together with the blunders themselves before a competent tribunal summoned to substitute a sensible Canon XL, for the one that now



burdens the Code. There is no doubt in my mind that a Canon could be drawn that would be acceptable to all Naturalists and offend none in any of its provisions, and produce a nomenclature that would be stable.

Those who have no sympathy with Canon XL and its doctrines are characterized in the 'Defense' as extremists. I leave it to my colleagues, the overwhelming majority of whom I am persuaded prefer Truth to Error, to decide which is the better, to be extremely right or extremely wrong, and of those who comprise the two classes thus designated which are the reprehensible extremists? In Dr. Allen's wrestling with the spelling lesson that worries him so greatly, on page 300 he complains because transliteration from other languages in Latin is so difficult, but on page 303 he speaks of it as a "simple matter." Evidently as he investigates his eyes become open, and eventually he will be able to see clearly in their true light the evils he now so strenuously defends and that they can, by a little mental activity, be made to disappear like an uneasy dream. One more point, my friend states that purists or classicists and all other bad people who sympathize with them, though happily they are "few," vacillate and do not even spell alike, and there can never be a uniformity of nomenclature with such persons, and he enumerates quite a list of reasons why this must be so. — Man is fallible, and even those who strive with all their strength to do right, at times may wander by the way, but if they hold to the direct path an occasional slip, though it may retard their progress and that of others, yet will not prevent them from reaching the light at last. But the Advocates of Error never slip nor vacillate, nor with them is there a shadow of turning. Having determined to go wrong, "c'est le premier pas qui coûte," and that once taken "facile decensus Avernii," and they speedily reach their goal and settle themselves comfortably amid the congenial darkness that can be felt. In the 'Defense' of Canon XL it is quite refreshing to observe the complacency with which it is taken for granted that its clauses can only be interpreted in one way, *viz.*: that in which the authors wish to have them regarded. Thus, take "obvious" or "known" typographical errors. By "obvious" is meant "transposition of letters" or their "inversion overlooked in proof-

reading"; by "known," where the "error has been corrected by the author." There are instances of utterly nonsensical words now in use, where the change of one letter would cause them to have an important meaning. How are we to "know" whether such words are misprints, "obvious transposition of letters," or misspelling "overlooked by the author?" There is no possible way of ascertaining, yet Canon XL insists in maintaining them in all their deformity. Among the instances available of this fact that may be cited is *Harelda*, which means nothing, is a nonsense word, but which is evidently a misprint or a misspelling for *Havelde* (Latinized Havelda), Scandinavian for Sea Duck. It is impossible to prove whether Stephens intended to write *Harelda* or overlooked the error in the proof, and so there is nothing "obvious" or "known" in the case, save the fact that Havelda is right and Harelda is wrong, but if the backward tenets of Canon XL are to be adopted we must as usual accept the wrong and reject the right. Place Error always before Truth! Of course there are other nonsense words employed, even by those who have no sympathy for Canon XL, such as "Dafila," also by the author of "Harelda." But such words have no derivation, they just "grew" like Topsy in the temporarily disordered brains of those who originated them, consequently cannot be corrected and are protected by the law of priority. They remain, however, as monuments to the frivolousness and extremely bad taste of their authors. And here, we may suppose, the Advocates of Error would come forward and with ill-concealed exultation, exclaim: "Well, if these nonsense words answer the purpose, why not accept those, that, derived from well known Greek or Latin sources, have, through the ignorance or carelessness of their authors, also become nonsense words?" Simply for two reasons. — First, because a word properly spelled has a definite meaning and often gives the clue to the habits of the animal it represents, its general appearance, or its relationship to others; and second, because, to employ it in its debased condition, is repugnant to an educated man and is a source of offense whenever met with, and what is of even more importance, because it prevents the very information its author desired to convey from being known. There is no question that any epithet applied to a species would

serve to distinguish it after it becomes known, and the more nonsensical and outrageous the spelling might be the more it would probably be remembered, and the most bizarre words have been coined to prove that this is a fact. But this method is neither sensible nor scientific, and the evils of such a procedure are fully appreciated even by the Authors of Canon XL, who urgently advise naturalists with the same breath they promise to perpetuate their blunders, to observe when forming words all the philological proprieties. Surely this advice was entirely unnecessary, if names have no importance but are merely handles to swing species on.

If that which is the most easy is to be adopted in place of that which is most correct, if knowledge is to be considered of little worth, and blunders, no matter what may have been the cause that produced them, are to be preferred because first born, to that which is well shapen and correct; if, through mere force of numbers, erroneous and faulty productions are to be placed on an equality with those words grammatically correct, achieved only through their Author's intimate, possibly profound, knowledge of classical literature, and if there shall be no uniform nomenclature unless it be that one debased by all the errors that ever have been or ever shall be committed, then it is easy to perceive that we shall have no Augustan Age of ornithological literature, but that its swift decadence will surely follow. In this 'Defense' of a Cult that can have no possible attractions for any educated person and which is a debasement of all literary effort, the Advocates of Error have spoken, and with the voice of their strongest man, and when the arguments advanced are subjected to a critical analysis, what do we receive? Only this — "It is exceedingly difficult to do right, and superlatively easy to do wrong, therefore, my brothers, do wrong." How simple! And now in conclusion. It is quite evident from Dr. Allen's attitude that if he can prevail upon the majority of the Committee to adopt his views, there can be little hope of improving by that Body the present illiterate condition existing in the nomenclature of North American ornithology; the remedy must come from without. Therefore, and I do not now address myself to the "authorities," but to those who, if they have not attained that glorious distinction, yet who will be the future leaders in North American ornithology, I would repeat

what I said in my former paper, and urge my younger colleagues not to be beguiled by the voice of the charmer, but to repudiate this Canon XL and all its mischievous doctrines. Have nothing to do with precepts that would advise you to choose Error before Truth, and elevate Wrong over Right, but stand firmly for grammatical purity and orthographical correctness, a position which, if stoutly held, will not cause you in after years to look back upon your writings with regret, that you knowingly permitted them to be disfigured by the blunders of others. Use your influence to overthrow the Doctrine of Error, that with siren voice has been sung in your ears so long, and the 'few' adherents that are now unwillingly accorded to the ranks of the opponents of this gospel will become a mighty force to battle for the Truth. Sometimes, however, it requires but a little leaven to permeate a large lump and cause it to change its aspect, and the conflict may not be so severe as the Advocates of Error would like to have us believe. As for my friend, who has honored my paper with his criticism, and whose eminent services to Natural Science have been so widely and deservedly acknowledged, and whose long and successful labors in declaring nature's truths makes his position on this subject the more incongruous, of him, in this instance, I am obliged mournfully to say, as did the old prophet of his illustrious but wilful nation, "Ephraim is joined to idols, let him alone."

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### "TRUTH *VERSUS* ERROR."

BY J. A. ALLEN.

IT is seldom that a title for an essay is more unhappily chosen than in the case of Mr. Elliot's "*Truth versus Error.*" In this long effusion on the subject of Canon XL of the A. O. U. code he betrays "the weakness of his cause," to borrow the phraseology of my esteemed disputant, by beautifully illustrating the maxim he has himself quoted, namely, "When you have a bad cause, abuse the opposing counsel." With this feature removed

we have no points not covered and much better stated in his former comparatively short paper in the October number of 'The Auk.' As the real points in the case have already been sufficiently met in my paper following Mr. Elliot's in the October 'Auk,' all I would ask of any interested reader would be to reread that article in the present connection. Mr. Elliot himself is doubtless well aware that satire is not argument. The last half of his 'Truth *versus* Error' is mainly a plea for the plaintiff, while the first part is an attempt to mislead in respect to the real point at issue; neither calls for special comment. To show the character of Mr. Elliot's defense, one or two points may be noted. First, the kind of "stability in nomenclature" here involved is simply that relating to the emendation or rejection of names on purely philological grounds. Hence, it was not "a happily grasped afterthought," by which I saved myself from "a disastrous overthrow," as Mr. Elliot knowingly (it would be discrediting his intelligence to think otherwise) misrepresents the situation.

Mr. Elliot refers triumphantly to the "Great Catalogue of Birds," meaning probably the British Museum Catalogue of Birds, as an example of where Canon XL has been "completely ignored and repudiated" by eminent authorities. But he has failed to tell his readers how many and what other Canons of the A. O. U. Code were equally "completely ignored and repudiated" by these same eminent authorities, as, for example, that fixing the date of the beginning of binomial nomenclature at 1758 instead of 1766, and that providing a trinomial nomenclature for subspecies. This was done, too, in the face of the fact that these two principles have come to be accepted by so large a number of other 'eminent authorities' as to have been incorporated into the recent international codes of nomenclature, and have been otherwise quite generally adopted.

Mr. Elliot refers to the fact that one member of the A. O. U. Committee agrees with him on the subject of Canon XL, and rather intimates that if we knew the whole truth in the case there might be others on his side also. He can be assured that such is not the case; and if he had been present at a discussion of this matter at the last meeting of the A. O. U. he would have been much enlightened, and possibly surprised, by the unanimity with

which Canon XL was sustained by the participants in the discussion, one only speaking in opposition. Mr. Elliot would certainly have derived small encouragement for any hope he may be entertaining that Canon XL may be changed to accord with his wishes by either the present A. O. U. Committee or any other A. O. U. Committee before whom, for some years at least, the matter is likely to come.

Mr. Elliot has given at length his reasons for standing "firmly for grammatical purity and orthographical correctness." I here add the views of a few 'leading authorities' who have equal right to an opinion in the case, and who are not members of the A. O. U. Committee, nor, with one exception, even American ornithologists.

In 1883, the great French botanist, Alphonse de Candolle, in his article 60 of his revised '*Lois de la Nomenclature Botanique*,' originally published in 1867, says: "A generic name should subsist just as it was made, though a purely typographical error may be corrected. The termination of a Latin specific name may be changed to bring it into agreement with its generic name." He even accepts hybrid names, which he formerly suppressed, showing the tendency of his mind on this point under the influence of long experience.

The late eminent American botanist, Prof. Asa Gray, stated in one of his later publications that "the tendency among working naturalists is to retain names in spite of faults." This statement of fact, it may be noted, was made long before the promulgation of Canon XL.

Dr. David S. Jordan, President of Leland Stanford University, and the leading ichthyologist of America, in reviewing the A. O. U. Code and Check-List in 1886 (Auk, III, p. 394), in commenting indirectly on Canon XL, said: "An illustration of this may be taken from the last Check-List of Dr. Coues [1882]. This work is in many respects most valuable. In it, however, so much learning and labor has been expended in the mending and remodelling of scientific names, as fairly to bring purism in that regard to *reductio ad absurdum*. Hence the Committee on the new Code, with Dr. Coues at its head, now declare that 'a name is only a name, and has no necessary meaning' and therefore no

necessarily correct orthography. After this experience, the work of strengthening the lame and halting words is hardly likely to be continued in other fields of science."

Perhaps it would not be unfair to history to say that the maxim, "A name is only a name, and has no necessary meaning," when adopted in 1885 received the unanimous approval of the Committee. But with the lapse of time, alas!

Mr. Oldfield Thomas, curator of mammals in the British Museum, not only discountenances the emendation of names, but in a recent paper 'On the Genera of Rodents' (Proc. Zool. Soc., 1896, p. 1015, footnote) makes the following pertinent comment on a question which has greatly agitated Mr. Elliot, namely, the insertion or omission of the Greek aspirate. Apropos of that much emended name *Aplodontia*, he says: "With regard to the insertion of the aspirate into the spelling of this and similar words, inquiry among pure classicists (other than zoölogists) elicits the opinion that the Latins were so careless and irregular themselves in this respect, that it is impossible to make a hard-and-fast rule about it, and that we should therefore accept the original aspiration or non-aspiration of scientific names. Personally I look with loathing on these *h*-less names, but I feel bound to recognize that it is not right to alter words formed by authors who Latinized their Greek in the very way that the Latins themselves sometimes did."

Mr. F. A. Lucas, in commenting in 'Science' (Nov. 4, 1898, p. 626) on Mr. Elliot's paper in the October Auk, makes the following timely remarks: "Zoölogical names are not literature, but simply handles by which species may be grasped, and they serve their purpose equally well if rough hewn or grammatically polished. LeConte used *Gyascutus* as a generic name simply to illustrate the point that a name need not of necessity have any meaning, and Dr. Leidy coined names with the express statement that they were not etymologically correct, but used because they were shorter than if correctly formed." This, it may be added, has often been the case with many scholarly naturalists, as stated in my reply to Mr. Elliot in the Oct. Auk.

Mr. Thomas R. R. Stebbins, M. A., F. R. S., etc., a leading English authority in Carcinology, in the 'Zoölogist' for Oct., 1898,

(p. 424), in commenting on the proposed new International Code of Nomenclature, says: "It should surely be the object of an International Code to interfere with individual liberty as little as possible, and to protect accepted names from any change that can be avoided. But in correcting names which may be considered to offend against grammar or philology, more inconvenience than advantage is likely to arise. A longer name . . . will often have to be substituted for a shorter one. The practical nuisance of this will be understood by those who have to write labels for small bottles and glass slips. It is also contrary to the tendency of language, which is constantly condensing instead of expanding forms. . . . By correction a name will sometimes secure a different initial, . . . which is apt to be very confusing when an index has to be consulted. The principle of priority is weakened when the original form of a name is relinquished not in the interest of science, but of scholarship. On the other hand, it is so easy to let names alone, carrying with them their small but interesting touches of autobiography, and no possible harm is done if we do leave to the polished scholar some occasion for chuckling over us untutored sons of science."

I will conclude these extracts—which might be indefinitely extended—by the testimony of a philologist, Mr. Walter Miller, Professor of Classical Philology in the Leland Stanford University, who in a paper on 'Scientific Names of Latin and Greek Derivation,' published recently in the Proceedings of the California Academy of Sciences (3d Ser., I, No. 3, 1897, p. 143) says: "We may recognize the law of priority as absolute, and retain the many monstrous and misspelled names to be found on the records of natural history, just as their makers left them. They are historic facts and serve to mark the group of animals or plants to which they apply, but these misshapen forms of words are not ornamental and they are unworthy of scholars. It is to be hoped that, in future, greater care may be taken to make words that give correctly the idea the author may have intended."

This paper may fittingly close with the following extract from the 'Introduction' (p. 12) to the A. O. U. Code:

"Thus, in seeking to attain a basis of uniformity and stability, it is always necessary to go back to the original forms of names,



and consistently adhere to them, in entire disregard of the verbal innovations of purists or grammarians, who, aiming at classical correctness in names, have too often brought about instability and confusion."

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### SIXTEENTH CONGRESS OF THE AMERICAN ORNITHOLOGISTS' UNION.

THE SIXTEENTH CONGRESS of the American Ornithologists' Union convened in Washington, D. C., Monday evening, November 14, 1898, the business meeting being held at the Army Medical Museum. The public sessions, commencing Tuesday, November 15, and lasting three days, were held at the U. S. National Museum, the Central High School, and at the Cosmos Club.

BUSINESS SESSION. — The meeting was called to order by Vice-President Dr. C. Hart Merriam, in the absence of the President, Mr. William Brewster. Seventeen active members were present. The Secretary's report gave the membership of the Union at the opening of the present Congress as 695, constituted as follows: Active, 47; Honorary, 17; Corresponding, 66; Associate, 565.

During the year the Union lost sixty-four members — six by death, twenty-one by resignation, and thirty-seven were dropped for non-payment of dues. The members lost by death were Osbert Salvin,<sup>1</sup> an Honorary Member, who died at Hawksfold, near Haslemere, England, June 1, 1898, aged 63 years; Dr. Anders Johan Malmgren,<sup>2</sup> a Corresponding Member, who died in Helsingfors, Finland, April 12, 1897, at the age of 63; and Dr. Felix Georg Herman August Mojsisovics von Mojsvár,<sup>3</sup> also a

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<sup>1</sup> For an obituary notice, see *Auk*, XV, pp. 343-345.

<sup>2</sup> For an obituary notice, see *Ibid*, pp. 214-215.

<sup>3</sup> For an obituary notice, see *Ibid*, p. 215.

Corresponding Member, who died in Gratz, Austria, August 27, 1897, aged 48. Also the following Associates: J. Maurice Hatch, who died May 1, 1898, at Colton, Calif., aged 19 years; Dr. George Baur,<sup>1</sup> who died in Munich, Germany, June 24, 1898; and Joseph Carleton Ingersoll, who died October 2, 1898.

The report of the Treasurer showed the finances of the Union to be in good condition.

The officers elected were: Robert Ridgway, President; Dr. C. Hart Merriam and Charles B. Cory, Vice-Presidents; John H. Sage, Secretary; William Dutcher, Treasurer. The vacancy in the Council, occasioned by the election of Mr. Cory as one of the Vice-Presidents, was filled by the selection of Witmer Stone. Mr. William Palmer, of the U. S. National Museum, was elected an Active Member, and the Hon. Walter Rothschild, of the Tring Museum, England, a Corresponding Member. One hundred and one Associate Members were elected, the largest number in any one year, with one exception, since the foundation of the Union. As in the previous year many of the new Associates were women, a result of the Audubon Society movement, and of the present interest taken in the study of birds by teachers in the public and private schools of the country. The usual reports of Standing Committees were received.

PUBLIC SESSION. *First Day.* — The meeting was called to order by Vice-President Merriam. After the transaction of the usual routine business, President-elect Robert Ridgway took the Chair.

The reading of scientific papers began with a paper by Mr. Harry C. Oberholser, entitled 'Among the Birds in Nevada.'

Next came 'The Moults of Passerine Species in the vicinity of New York City,' by Dr. Jonathan Dwight, Jr. Remarks followed by Dr. Coues, Messrs. H. C. Oberholser and William Palmer, and the author.

The graphophone demonstration of a Brown Thrasher's song, given by Dr. Sylvester D. Judd, at the opening of the afternoon session, was a new and unique feature of the Congress. Dr. Judd's experiments were made with a cage bird, but the results

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<sup>1</sup> For an obituary notice, see Auk, XV, p. 287.

obtained were enough to show that great possibilities in this field may be looked for in the future.

The second title was 'The Distribution and Relationships of *Ammodramus maritimus* and its Allies,' by Mr. Frank M. Chapman.

The next paper was 'The Geographical Distribution of the Wrens of the *bewickii* Group,' by Harry C. Oberholser.

The fourth title was 'Polygamy among Oscines,' by Prof. F. E. L. Beal. Remarks followed by Messrs. Baskett, Chapman, Fuertes, and Nelson.

The fifth paper was 'The Prothonotary Warbler, *Protonotaria citrea*, a common summer resident of Southeastern Minnesota,' by Dr. Thos. S. Roberts. Remarks followed by the Chairman (Dr. Merriam), and Mr. Stone.

The sixth title was 'Some early Philadelphia Collectors and Collections,' by Mr. Witmer Stone. Remarks followed by Drs. Coues and Merriam, and the author.

The concluding paper of the afternoon was by Mr. William Palmer, entitled 'Chadbourne on Individual Dichromatism in *Megascops asio*, with some evidence in the question.' Discussion followed by Drs. Allen and Coues, Messrs. Oberholser, Judd, Wood, Dutcher, Baskett, and the author.

*Second Day.*—The meeting was called to order by Vice-President Merriam.

Mr. William Palmer gave, as the first paper of the morning, 'Some Characteristics of Neosoptiles.' Remarks followed by the Chair and Dr. Gill.

Mr. Witmer Stone, Chairman of the 'Committee on Protection of North American Birds,' then read the report of his committee for the past year. The report is published in this number of 'The Auk,' and will be issued as a pamphlet to be sold at a very low price for general distribution.

The afternoon session was held at the Central High School, the large hall in the building having been placed at the disposal of the Union and its friends, by Prof. W. B. Powell. Vice-President C. B. Cory in the Chair. All of the papers read there were illustrated with lantern slides.

The first title was 'The Bird Rocks of the Gulf of St. Law-

rence,' by Frank M. Chapman. Remarks followed by the Chair, Messrs. William Palmer and F. A. Lucas.

Next came an 'Exhibition of lantern slides of birds, birds' nests and nesting haunts, from Nature,' by Dr. Thos. S. Roberts.

Then followed exhibitions of lantern slides by Messrs. William Dutcher and William L. Baily.

The evening session was held in the Assembly Hall of the Cosmos Club, by courtesy of the Club, the meeting being called to order by Vice-President Merriam. As in the afternoon all papers read were illustrated with lantern slides.

The opening paper was by Mr. Frank M. Chapman, entitled 'On the Nesting Habits of the Brown Pelican, on Pelican Island, Florida.' Remarks followed by Messrs. Fuertes, Bangs, Wood, Evermann, Oberholser, and the author.

The second title was 'A Chapter in the Life of the Canada Jay,' by Oscar Bird Warren. In the absence of the author it was read by Dr. Thos. S. Roberts. Remarks followed by the Chair.

The concluding paper, 'Clarke's Crows and Oregon Jays on Mt. Hood,' by Miss Florence A. Merriam, was read by Mr. Dutcher, in the absence of the author. Remarks followed by the Chair, and Messrs. Baskett and Osgood.

*Third Day.* — The meeting was called to order by Vice-President Merriam. Before proceeding to the reading of papers resolutions were adopted thanking the Board of Regents of the Smithsonian Institution for the use of a hall in the U. S. National Museum for a place of meeting, and for other courtesies extended; to the Washington members of the Union for the cordial welcome and generous hospitality shown visiting members; and to Dr. J. C. Merrill, U. S. A., of the Army Medical Museum, Professor W. B. Powell, Superintendent of Schools, and to the Cosmos Club, for the use of halls under their control for places of meeting.

The first paper of the morning was by Witmer Stone on 'Crow Roosts in Eastern Pennsylvania and New Jersey.' Remarks followed by Messrs. Fuertes, Dutcher, S. N. Rhoads, William Palmer and the author.

The second title was 'The Generic Names *Peliocetes* and *Pooecetes*,' by Dr. Theo. Gill. Discussed by Drs. Coues, Allen, Palmer and Merriam, Messrs. Oberholser, Rhoads, and the author.

The opening paper of the afternoon was by Mr. Harry C. Oberholser entitled 'The Blue Honey-creepers of Tropical America.' Remarks followed by Frank M. Chapman, E. W. Nelson, and the author.

The next title was 'The Water Ouzel on Mt. Shasta,' by Miss Florence A. Merriam. As the author was not present the paper was read by Mr. Dutcher.

Messrs. Nelson R. Wood and Louis Agassiz Fuertes, two members of the Union, then gave, by special request, imitations of the notes of birds.

The third and concluding paper, 'The Nocturnal Flight of Migrating Birds,' by O. G. Libby, was read in the absence of the author by Dr. T. S. Palmer.

The Union then adjourned to meet in Philadelphia, November 13, 1899.

This Congress was a most successful one, both from the high character of the papers read, and from the large attendance of members and visitors.

JNO. H. SAGE,  
*Secretary.*

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## REPORT OF THE A. O. U. COMMITTEE ON PRO- TECTION OF NORTH AMERICAN BIRDS.

THE COMMITTEE ON PROTECTION OF NORTH AMERICAN BIRDS is pleased to report a constantly increasing interest in the work in which it is engaged. During the year it has been in correspondence with representatives of thirty-six States and Territories and the mass of data submitted to the chairman is so large that it is possible only to present a small portion of it in this report.

As heretofore the Committee has acted mainly as a bureau of information, placing correspondents in communication with active workers in their respective States, and furnishing literature and advice whenever possible. Beside this general work some special

work has been undertaken by the Committee, especially in relation to State Bird Laws.

Following the suggestions of the last annual report, the Committee prepared a 'Model Bird Law' to serve as a guide for those who should undertake reform in their State laws. This is accompanied by suggestions for modifying the law in cases where its adoption *in toto* was deemed impossible. Copies of this Model Law are furnished to those who are willing to interest themselves in bringing it before their State Legislatures.

Early in the year a meeting of Game Wardens of Wisconsin, Minnesota, Michigan, Illinois, Ohio and North Dakota was held in Chicago for the purpose of drafting uniform game laws for these States. Mr. Deane of our Committee appeared before this meeting, in the interest of the uniform bird law, and with the assistance of Mr. L. Whitney Watkins succeeded in securing its adoption for presentation to the respective legislatures, along with the game law.

Effort has also been made to secure recognition of this Committee by the various Audubon and other bird-protective Societies of America, as their representative in international matters. This was deemed desirable in consequence of correspondence with the Oesterreichisch Bund der Vogelfreunde of Grätz, Austria, which has undertaken to establish an International League for the protection of birds, to be represented in each country by some organized body or society. Such organization will doubtless be of much service in securing more uniform bird laws in widely separated countries.

Much important work has been accomplished during the year which has originated outside of your Committee, but which deserves mention in this connection, such as (1) the establishment of the League of American Sportsmen; (2) Mr. Hornaday's report to the New York Zoölogical Society on 'The Destruction of Our Birds and Mammals'; and (3) Senator Hoar's labors in behalf of his bill in Congress to prohibit the importation of wild birds' plumage for purposes of ornamentation.

Senator Hoar's bill strikes at the root of the whole question of bird millinery; for so long as it is permissible to import 'aigrettes' and similar feathers it is almost impossible to prove that dealers

are violating the law and selling American plumes; as they insist that they are all imported. With the importation stopped the traffic would be practically at an end.

Senator Hoar writes that his bill passed the Senate at the last session with but one dissenting voice and now awaits the action of the House. "In the short session, with so many important subjects struggling for attention," he says, "its fate is uncertain; but if you can enlist the vigorous support of one man of influence (in the House) it will be easy, I think, to get it through." Many have already used their influence to secure support for this bill, and your Committee cannot too strongly urge further action on this line. Even should Senator Hoar's bill fail of passage, his agitation in Congress of the question of bird protection and the resultant publicity given to it has done an immense amount of good.

The establishment of the League of American Sportsmen is a matter for congratulation among all lovers of nature, and too much praise cannot be given to Mr. G. O. Shields and his associates for their tireless efforts in exposing 'game hogs' and bird destroyers. Though its work is primarily directed towards the protection of game, the birds also come in for their share of attention, and we look for most satisfactory results from coöperation between this organization and the bird protective societies.

In consideration of the widespread agitation in favor of bird protection and popular bird study during the past year it may prove desirable, before considering the reports from the several States, to take a hasty view of the present status of Bird Protection in the country at large. As regards the killing of birds for the millinery trade, there is apparently little done within the limits of the United States, though in Florida the slaughter of the remaining Egrets seems to go on in spite of laws and all that has been written against the practice. Mr. Geo. W. Kinnison, of Lake City, Fla., writes: "This last season more plumes were shipped than usual, as, owing to the very dry season hunters penetrated the everglades farther to find the rookeries than usual. Our laws are such that a heavy penalty is provided for any one engaged in buying, shipping, or dealing in any way in plumes, but the bulk of the Egret plumes being so small, men will collect them and

with a couple of hand satchels go North and dispose of them. When your northern dealers are punished to the fullest extent of the law for buying them then, and only then, will the killing of plume birds stop in Florida."

The killing of small insectivorous birds for game or 'sport' seems to be largely restricted to the Southern States, but is there practised to such an extent as to warrant the most serious consideration. Miss Florence A. Merriam writes: "The protection we give birds during the nesting season in the North is not wholly satisfactory if they are shot on migrating South, and, as is well known, many of our most valuable insectivorous birds are used for food in the South, and as soon as they begin migrating are subjected to a persistent fusillade. During one week in the spring of 1897, 2600 Robins, shot in North Carolina, were exposed for sale in one market stall in Washington, and in Summerville, S. C., the shooting was so constant that I came to feel that no northern bird could ever reach home alive." Prof. Nehrling and Mr. Allison report the same practice in New Orleans where vast numbers of song birds of all sorts are sold in the markets.

As regards Laws, nearly every State has laws intended to protect the birds, though many are so badly framed as to be absolutely useless. But even good laws are usually dead letters unless there is some one whose business it is to enforce them. In only a few States do the game wardens make it their business to arrest violators of the bird laws, and the greatest need in bird-protective legislation is the provision of salaried game wardens to enforce the laws. It is in this connection, however, that we look for good results by coöperation with the League of American Sportsmen, some of whose wardens are already taking deep interest in the welfare of the song birds.

In the lack of regular wardens much good can be done by posting copies of laws and penalties in prominent places through the country, which experience has shown will deter many would-be slaughterers. It is also well worth while to instruct country constables as to the laws and the profits resulting from the arrest of offenders. One case has come to the notice of the Committee of a country constable who, to use his own words, "netted \$35 in fines from people shootin' birds as Mrs. — calls valuable."



That the widespread agitation for bird protection in the North has caused a much stricter regard for the laws is also shown by the decrease in the number of small birds brought to taxidermists' shops to be mounted. A bird stuffer in one of our large cities, in reply to an inquiry as to his business, said: "It is simply dead. If it warn't for rugs and deer heads we could n't live. Those —, —, — Audubon Societies and bird books and newfangled laws are just crowding us out. I have n't sold a bird in three years. The men are afraid to shoot them or handle them in any shape. What's the birds for if they ain't to be used?"

This is very gratifying, but it seems much more difficult to obtain like results in the South, owing to the fact that small birds have there been regarded as legitimate game for generations, and it will only be by educating the rising generation that satisfactory results will be obtained.

As bearing directly upon this point a quotation from Miss Merriam's report is of interest: "Some valuable hints were given me last winter by the bad boys of a Summerville, S. C., school. It was reported that they robbed every nest in the neighborhood and used sling shots right and left, and I was asked to labor with them. Believing that the only way to prevent killing is to create an interest in the live bird, I preached merely by telling tales of my bird friends, drawing out the boys to tell in turn what they knew. I soon felt that I had fallen not among robbers and sling shooters but among ornithologists. Nevertheless there was work to be done among them; their knowledge was mainly of nests and eggs; they knew little of the general habits of the birds. The sportsman's instinct was strong within them. One lad confessed quite frankly that he had killed a Great Blue Heron 'just to pass the time,' and two boys whom I was cherishing as future Audubons one day announced with cheerful pride that they had just shot 13 Robins. This sporting instinct was, however, offset by a strong love for natural history, and it was easy to stimulate their interest in the habits of the birds by picturing the delights of observing. This plan quickly bore fruit. A Chickadee was building near the house of one of the boys and one day the child came to me full of enthusiasm — he had spent half a day watching it. Graphically he explained the way it had worked and with

eyes aglow he exclaimed, 'I declare it was delightful to watch that little bird build.' I felt the child had given me the answer to the bad boy problem. *Prove to him that the live bird is more interesting than the dead one*, or rather enable him to prove it to himself."

It is on the educational side of the question that the members of the Committee have exerted themselves especially during the past year, and the results are very encouraging. Several new Audubon Societies have been established in 1898 and there are now 14 States societies, with a combined membership of over 16,000, while some 90,000 leaflets, pamphlets, etc., have been distributed through their agency.

Lectures and bird talks have been given in greater numbers than ever before, under the auspices of schools, women's clubs and literary societies; and the observation of bird day in schools, although not authorized by law to the extent that it should be, is being more generally considered as the teachers become aware of its importance. And the most admirable plan of joining its observation with that of Arbor Day is meeting with much favor.

The status of bird millinery remains practically as it has been, no arguments being able to prevail against the fashion leaders of to-day, and the increase and decrease of birds for ornament seems mainly a question of variation in fashion and of the character of material available for use. Though the traffic in American birds is reduced to a minimum, the use of imported species goes on practically unabated.

The milliners in many of our large cities have joined gladly with the Audubon Societies in exhibiting 'birdless hats,' and some, notably Gimbel Bros. of Milwaukee and Philadelphia, have advocated in circulars and advertisements the abandonment of wild birds, while they made a special department of Audubon millinery in their stores; but the present generation of fashionable women, as a class, seems not to be open to argument on this subject. The only possible way to reach them will be by the passage of Senator Hoar's bill. The effect of the widespread appeal for the birds cannot, however, fail to be felt, and it will become more and more apparent as years go by and the younger generation, brought up under its teaching, begins to exert an influence in the community.

One more point remains to be considered in reviewing the present status of bird protection; that is the sacrifice of birds to science. This cannot be conscientiously ignored.

It has been abundantly proven that the birds killed for real scientific use are a factor so small as not to require serious attention in this connection; and it is only necessary to add that the practice of loaning the specimens in large collections to ornithologists engaged in special work obviates to a great extent the necessity of obtaining additional specimens for every new investigation.

The day is past, too, when every ornithologist needs a collection. The collections of our large museums, placed cordially at the convenience of students, answer the needs of many who would otherwise have to possess a cabinet of their own, and many an ornithologist to-day—well deserving of the title—has pursued his studies without a gun.

So much for science: but there is collecting done which science does not sanction; too often permits are granted for scientific collecting to those who collect merely for natural history dealers. The strict enforcement of the law would prohibit this, and it is a matter for serious consideration.

Far worse than the collecting of *birds* for the trade is the 'scourge of egg collecting,' against which Mr. Hornaday has entered such an earnest protest.

Egg-collecting has become a fad which is encouraged and fostered by the dealers until it is one of the most potent causes of the decrease in our birds. The vast majority of egg-collectors contribute nothing to the science of ornithology and the issuing of licenses promiscuously to this class makes any law for bird protection practically useless.

There can be no objection to a student collecting a series of two or three sets of eggs of a species selected to show variation, but when a man numbers in his cabinet "210 sets or 917 eggs of the Kentucky Warbler," and other species in proportion, it becomes an outrage.

Permits should of course be allowed in all States for *scientific* collecting, but the granting power should be in the hands of those who are capable of knowing a true ornithologist or oölogist from an 'egg-hog.'

It is not desirable to prevent a beginner from collecting, as is done in some States where no permits are given to those under 18 years of age. But nothing need be feared from young students if our active ornithologists will take pains to give them a few words of advice.

Too often boys regard the formation of a *large* collection of eggs or birds as necessarily the first step towards becoming an ornithologist of note; but if those who have already won their spurs, will take the trouble to point out to the beginners, the lines of work which yield results of real benefit to science they will be led to see exactly how much collecting and what sort of specimens are really needed for scientific research and not needlessly duplicate what has already been procured. Further, they will in all probability become known as original contributors to ornithological science, while as mere collectors they would bid fair to remain in obscurity.

As bearing directly upon egg collecting by boys, a letter dictated by the late Prof. Spencer F. Baird, shortly before his death and kindly placed at my disposal by his daughter, Miss Lucy H. Baird, is so pertinent that I make the following quotation from it, to show the feelings of one of America's greatest ornithologists upon this subject.

"When I was in the [egg] 'business,' I was collecting material for an exhaustive work on the natural history of the birds of North America, and a set of nests and eggs of each species, in all variations, was a necessity. I consequently needed to have as large a variety as possible, so as to complete the ground. The ordinary bird-egging boy, however, whose enterprise is not to be frowned at, is not such an individual, he simply wants to make a collection of eggs without an ulterior scientific object. A single egg will answer the same purpose in his case as the one hundred required in the one first mentioned. . . . I am inclined to ascribe the reduction in the number of our home birds as much to the taking of eggs for various purposes and driving away the parents as to actual extermination of the birds themselves. However, the most effectual way of preventing the difficulty is by prohibiting the taking of eggs entirely, which I would earnestly recommend."

With this brief outline of the present status of Bird Protection I turn to the reports furnished to the chairman by members of the Committee and others in the various States of the Union.

Only an abstract of these can be given in the present paper but even from this it will be readily seen how extensive and how sincere is the interest in Bird Protection and Bird Study.

The more important reports received by the Chairman from members of the Committee are considered in the following pages, that of Mr. Mackay being given in full, as it is of particular interest in connection with his work of previous years in the protection of the Gulls and Terns of the New England coast.

It is with sincere regret that we are compelled to announce Mr. Mackay's retirement from the Committee, as he feels himself unable to longer continue his valuable work in its behalf.

#### MASSACHUSETTS.

Mr. Mackay reports as follows: "I herewith submit my report for the year ending Nov. 14, 1898. I was instrumental in having inserted a protective clause in the 'Muskeget Act,' approved June 1, 1895. Acting under this clause the town of Nantucket this year appropriated one hundred dollars for a special police officer, whose duty should be to remain on Muskeget Island from May 1 to August 15, to protect certain birds living in and about that island. Mr. John R. Sandsbury of Nantucket, my candidate, was considerably appointed to the position, and on my application to the Commissioners of Inland Fisheries and Game, was made a Deputy Fish and Game Commissioner, with the authority to arrest without warrant. On entering upon his duties Mr. Sandsbury repaired the old signs, and repapered them with new warning notices, all of which was done by the time the Terns and Laughing Gulls commenced to breed.

"By referring to my report for 1897 (*Auk*, Vol. XV, pp. 84-89), it will be noticed that large numbers of Terns were not in evidence in 1897, and had apparently abandoned the locality. This caused me considerable uneasiness when I viewed with dismay the large falling off in the number of the birds. While on Muskeget, July 2, 3, 4, 5, 1898, I resolved to make such accurate observa-

tions that they could be used hereafter with confidence, for it is doubtful if similar data will be again collected in the near future. It is no slight undertaking to accomplish this conscientiously. The condition of the Terns and Laughing Gulls this year is the best that has ever been reached, to my knowledge, as far as similar observations show.

"Adams Island, which has not had any breeding birds for years, had this season an estimated colony of four hundred Terns. I found here two hundred and ninety-five nests containing five hundred and forty-three eggs. Other localities also show gains over former years. It would appear that many of the Terns not present during 1897 have this season returned to their former haunt, while others, I have reason to believe, have located on Penikese Island. This satisfactory condition does not include the Roseate Terns; their numbers, I regret to state, are still considerably below the splendid aggregate of 1896. I am still in hopes that another season will see most of them back again. When one contemplates the decrease in bird life elsewhere, it must cause extreme satisfaction to all lovers of bird life to know that we have in our midst two such great colonies of Terns as are domiciled on Muskeget and Penikese Islands, the aggregate numbers of which are beyond estimate. A home in such a thickly settled State as Massachusetts, where available sites on the coast are constantly sought for summer residences, is most unusual. The presence of these beautiful birds must naturally enhance the interest in such surroundings.

"When the Massachusetts Legislature met last winter, I had two bills (Nos. 5 and 6) introduced, 'For the better Protection of Certain Birds.' Both bills were similar in character, having the protection of certain Hawks and Owls, etc., as one of the main features, the economic value of which were explained in a letter by Dr. C. Hart Merriam, Chief of the Biological Survey, U. S. Department of Agriculture. I had this letter read before the Senate in connection with my argument. Bill No. 6 omitted certain clauses affecting the marketmen, hotel men, and cold storage interests, who were, and always have been, inimical to my endeavors. I thought if bill No. 5 with such clauses failed, I might succeed with the other. Unfortunately both bills were

heard at the same time by the Fish and Game committee, and although the strongest kind of arguments were presented in their favor, it was without avail, the committee reporting against both bills. I fought them through but was defeated in the end. The combined interests above mentioned have thus far proved too strong for me.

"I would again call attention to the shooting and shipment East *in the spring* of certain birds, and strongly appeal to our Western friends to make some endeavor to prevent it, if possible, in the case of the American Golden Plovers, Eskimo Curlews, and Bartramian Sandpipers. These birds are permitted to be sold in Massachusetts during the closed season provided *they have been taken out of the State*. I have tried very hard to prevent such sale *here*, but without success. These birds are killed in the West and Southwest during the spring while on their way to the breeding grounds. It is a common occurrence to take eggs from the females when cleaning them. Unless protective laws are enacted *in the West*, little can be hoped for in Massachusetts, and it will not be long before these birds will disappear on our coast except as stragglers. In fact, judging from a number of years past in Massachusetts, such conditions have already been reached. Nebraska, Missouri, and Texas (Fort Worth) appear to be the principal shipping points.

"One retrograde law was enacted this year, viz.: The open season on the Scoters having been *extended* from April 15 to May 20, in order to cover for shooting purposes, the spring migration of these Ducks northward to breed. I endeavored to defeat this bill, and at first thought I had succeeded, as it was voted down. A subsequent reconsideration reinstated it, and with another vote it was passed, and later received the approval of the Governor. As a precedent, I consider the success of this bill as unfortunate, as it will invite similar attempts, more than one of which, I hear, are to be undertaken next winter.

"Black-bellied Plovers continue to increase in this State, both in spring and autumn, the result, I am convinced, of protective laws. This increase is creating some discontent with such laws, as persons who desire to kill them in the spring during the closed season, are prevented from so doing.

"The colony of Terns on Penikese Island have enjoyed a season of unmolested quiet. The old signs were repaired, and repapered with new warning notices in Portuguese and English. Arrangements were made early in the spring with Captain Proctor of the Buzzards Bay police boat to continue his surveillance of the island. The Terns arrived in larger numbers this season than for years, which fact is affirmed by fishermen and the inhabitants of Cuttyhunk Island. Mr. Frederick A. Homer wrote me recently that the number of eggs this season is the largest in his experience. He also added: 'In conclusion, I will say I think you would be abundantly satisfied with the Penikese colony of Terns, for in my estimation there has been a decidedly larger number of old birds than for years, as well as a larger number of young, and they seem to have increased in the past few years very materially. At any rate you may rest assured they have been well cared for and protected so far as we were able to do so, and if any good results are obtained we shall be pleased.' You also will be pleased to know, I am sure, that I attribute the present high status of the Terns on Penikese Island to the support I have received from the Messrs. Homer Brothers, owners of the island."

Mr. E. H. Forbush, Ornithologist of the Massachusetts Board of Agriculture and a member of the Committee, sends a most interesting report covering the whole subject of bird protection in his State and we regret that lack of space prevents its presentation in full. Of the work of the Audubon Society he says: "Its work in distributing literature, in interesting teachers, and thereby providing for the inculcation of its principles among the schools, cannot be too highly recognized. This kind of work is bound to bring forth good fruit, 'for what is learned in youth is remembered in old age.'"

As regards Mr. Mackay's report on the Terns he says: "I cannot let this opportunity pass without expressing the highest admiration for the practical work that he has done. It has, I believe, resulted in the increase of the number of Terns all along the Massachusetts coast."

In regard to enforcing the bird laws of the State, Mr. Forbush reports that there are, at present 80 fish and game wardens, some



of whom have done excellent work in warning nest robbers and shooters. As most of the wardens are unpaid, however, they can devote but little time to this work. The precincts of the new Metropolitan Park are regularly patrolled by Park Policemen, and the laws against gunners or nest robbers here are very severe, the result being a large increase in the Park of Crows, Quail, Woodcock, Grouse, Jays, Squirrels, and Water Fowl. Most important has been the action of the Board of Agriculture which, at Mr. Forbush's request, appointed twenty bird wardens from the Gypsy Moth force.

Mr. Forbush regards stray cats as one of the greatest sources of harm to our smaller birds, especially to the young in the nests, while boy gunners, pot hunters and Italians are very destructive. Respecting nests he states that he has had several competent observers watching nests within a few miles of his office for three years past with the object of obtaining data on the habits and food of the birds, and each year 75% of the nests are in some way robbed of eggs or young.

Mr. Forbush reports also, as a sample case, the arrest of three Italians, one of whom had on his person nine birds—Robins, Hermit Thrushes and Downy Woodpeckers, and says: "It is pleasant to be able to add that this man was fined \$90, while the others with him were fined for carrying firearms.

"Other Italians were also arrested and fined for trapping birds for dealers in cage birds in Boston, and Judge Pettengill, the trial justice, said: 'I know and love our song birds. Time was when I knew every bird we have hereabouts by its call note. The woods around Boston are full of men and boys with guns who shoot song birds, and I am glad to hear of the interest now taken in the organization of societies for effecting their protection and increase.' Judge Pettengill furnishes a worthy example for imitation by some of our other judges who are sometimes more considerate of the shooters than of the birds."

#### ILLINOIS.

Mr. Ruthven Deane, in addition to his report on the work of the Illinois Audubon Society, says: "Great credit is due to the

efficient work which has been done in our State by Warden H. W. Loveday and his deputies. Since the first of the year over one hundred prosecutions and convictions have been made for the wanton killing and trapping of song and insectivorous birds, by men and boys, largely Italians and Bohemians. In 1897 there were 580 convictions in the State for illegal killing of game birds, and the result has made violators much less bold, and greatly decreased the breaches of the law. An attempt was made to convict a dealer in native cage birds, but owing to a technicality in the faulty law it failed, though the Judge expressed sincere regret at his inability to punish the offenders. This is another evidence of the necessity of a carefully worded law."

#### DISTRICT OF COLUMBIA.

Dr. T. S. Palmer of the Committee and of the Biological Survey of the U. S. Department of Agriculture, has furnished much valuable information on bird legislation to various persons contemplating revisions in their State laws. He reports that the Survey has, as in former years, aided the cause of bird protection in every way possible. Its library is always open to students for consultation, and during the spring it kept a special collection of specimens convenient for reference for persons studying the local birds. More than 20,000 copies of the circular on 'Bird Day in the Schools' have been distributed, as well as several editions of the Bulletin on 'Common Birds in relation to Agriculture.' Dr. Palmer conducted a class in bird study among teachers in the Normal School, "the object being to familiarize them with the common birds of the District by actual examination of specimens." The results were highly satisfactory and the plan is an excellent one.

#### TEXAS.

Mrs. E. Irene Rood of the Committee reports on her work in Texas: "No doubt the most important work done in this State during the year for the protection of birds, has been the organization of numerous Bands of Mercy, all pledged to protect the

birds. Besides this, I have distributed about 20,000 circulars, and have had the law in regard to killing birds printed on large placards and posted in conspicuous places.

"I have not had time to organize any Audubon Societies yet, but have organized a number of Humane Societies which ought to cover the same ground. In fact the State Humane Education Society proposes to do some protective legislative work the coming winter. I have addressed the children in the public schools at nearly all the places I have visited on the subject of bird protection, and advocated a Bird Day, which I hope to see established in a few months."

#### MISSOURI.

Mr. O. Widmann, of the Committee, reports that little has been done in his State. An exhibition of birdless millinery was given in St. Louis, but seemed to have little effect.

"The laws," he states, "are all right as far as they go but are good for nothing if they are not taken care of by somebody who has the means to enforce them, and as a rule the only means to enforce a law is money to pay men who see that it is enforced. . . . The sale of shot guns and ammunition has been unprecedentedly large in St. Louis, and the war has given a new incentive to the love of slaughter."

#### ARKANSAS.

Mrs. Louise McGowen Stephenson, of the Committee, sends a most important report which we regret, from lack of space, cannot be given entire.

She has distributed 2000 placards of the bird laws throughout the State, having them posted in schools, railroad stations, express offices, barber shops, saloons and meat markets. Through her efforts and those of Mr. John M. Rose, a new law will be presented to the legislature providing for a State fish and game warden to look after the enforcement of the laws, and with power to appoint assistants. Mrs. Stephenson has also been active in

distributing literature and writing for the daily papers in the interest of bird protection.

She says in closing her report: "This report must not close without mention of some whose aid has been invaluable. To Mr. Neal, editor of 'The World,' great credit is due, for not only are the columns of his paper open to me, but often he has entered the lists himself, and it was at his request that Senator Hoar's 'Plea of the Birds' was scattered broadcast over the whole land, by one of the greatest manufacturers of 'plate matter.'

"Mrs. Sara Thorpe Thomas, of Alexander, Ark., is a faithful friend of the birds and her beautifully written articles are published in various journals throughout the State.

"Last of those I can name here is a dear little girl in Little Rock, Merle McCain, with whom it is my pleasure to correspond, who has with the help of her teacher organized the only Audubon Society in the State."

#### AUDUBON SOCIETIES.

Owing to the limited space at my disposal it will be impossible in the present report to include extracts from the many letters received from the Audubon Societies, and from individuals who have been working in the interest of bird protection, and we are therefore compelled to summarize their work as briefly as possible.

Audubon Societies at present exist in New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, District of Columbia, Ohio, Indiana, Illinois, Wisconsin, Minnesota and Iowa. Their work has been mainly devoted to the issuing and distribution of literature, and the holding of lectures and meetings at which bird protection and bird study were discussed.

Excellent progress has been made in many States towards the establishment of bird exercises in the schools in connection with Arbor Day celebration, notably in Wisconsin and Indiana, where the State Superintendents of Public Instruction have lent their aid.

Great success has attended the efforts of some of the Societies

in their attempt to interest milliners in the work. Mrs. Robins of Pennsylvania says: "An exhibition of millinery trimmed without the use of wild birds, aigrettes, etc., was held at the Hotel Stratford, Philadelphia, in May, in which all the leading milliners of the city participated, and the attendance of visitors was very large. The exhibits of the various firms were afterwards displayed in their stores and advertised in their newspaper notices, which did still more to draw public attention to the possibilities of 'Audubon millinery.' As a result many of the stores have agreed to make a speciality of birdless hats, and Messrs. Gimbel Bros. have established an Audubon department, besides issuing an appeal for the birds in their millinery advertisements."

#### SOUTHERN STATES.

In the Southern States, as already stated, there is probably greater need for the agitation of bird protection than anywhere else in the Union. The slaughter of birds there during winter cannot but counteract our best efforts for protection in the North during the nesting season. Mr. Kinnison has already been quoted in relation to the destruction of Egrets in Florida. He adds, in reference to song birds, "Our most welcome bird in the North, the Robin, comes South to winter in droves and is killed here as a game bird. It is not uncommon to see a hunter come to market with them in strings of a dozen each to sell. It makes a man like myself who was raised in northern Indiana sick. Every bird was protected there by my father, and I have watched him when plowing give a wide birth to the little Ground Sparrows' nests. I can never forget these impressions of boyhood, and it hurts me to see the birds slaughtered when they come to Florida simply for a home during the winter."

Mr. T. W. Talley writes from Tallahassee that there is "practically nothing done for the protection of birds; each county has its laws but there is rarely any enforcement of them. I feel confident," he continues, "that much of the destruction of small, beneficial species is due to guns placed in the hands of small boys who learn an accomplishment of every southern gentleman

— to shoot well — by killing every small, beneficial bird that they can see.”

In Louisiana Mr. Andrew Allison reports much the same condition of affairs as in Florida. A new bird and game law has been passed, and he hopes to obtain the passing of still better laws next year.<sup>1</sup>

Mrs. E. G. McCabe, of Atlanta, Georgia, has undertaken to introduce the principles of the Audubon Societies during the year, by interesting children in the study of birds and in distributing literature. Rev. H. E. Wheeler of Huntsville, Alabama, has done similar work but deplors the neglect of the birds in his State. Miss Elizabeth J. Cummins has formed a branch of the Pennsylvania Audubon Society at Wheeling, W. Va., and secured 61 members.

In Tennessee, North and South Carolina, correspondence shows that practically nothing has been done for bird protection, though Mr. J. R. Lowry, principal of the North Knoxville School (Tenn.) has undertaken to interest his teachers in the subject, and Miss Merriam has done some work in South Carolina, as already described.

As showing what can be accomplished in the way of legislation the report of Mr. F. C. Kirkwood, of the Maryland Fish and Game Protective Association, is very encouraging. Heretofore Robins, Flickers and Meadowlarks were lawful game birds but in face of strong opposition they have now all been placed in the protected list. Mr. Kirkwood writes: “This was one of the hardest pills to swallow, for the rural population as well as a great many city men; still the law has in the main been observed. As far as song birds are concerned, I consider them as numerous as ever.” Let us hope that similar reforms may be undertaken in the States further south.

#### PACIFIC COAST.

From the Pacific coast we have only meagre reports. Mr.

<sup>1</sup> I have been informed since this report was written that an Audubon Society was organized during the year in New Orleans, but have no further information of it.

Anthony, of the Committee, writing from Portland, Oregon, early in the year, stated that former sealers were reported fitting out plume hunting expeditions to the Mexican coast. He was later of the opinion that the rush to the Alaskan gold fields, and the consequent demand for vessels, had benefited both birds and seals by attracting the men elsewhere.

Mr. Leverett M. Loomis reports that the sea bird egg trade at San Francisco, Cal., has practically stopped, owing to the steps taken last year.

In Washington, Mr. J. H. Bowles states that bird protection is as yet almost unnecessary, for civilization is not sufficiently advanced to make every boy think it necessary for him to have a collection of eggs or birds. One may see a boy after birds with a sling, but there is a very strict law against these implements and they are very scarce.

In conclusion, your Committee would call attention to the fact that most of the suggestions embodied in last year's report have been acted upon, as shown in the preceding pages, with good results.

Continuance of work on these lines, however, is strongly to be recommended, especially (1) Foundation of Audubon societies. (2) Encouragement of Bird study in schools, women's clubs and other societies, both by lectures and publications in daily and school journals. (3) Establishment of Bird day in connection with Arbor day in the schools. (4) A passage of the model Bird Law in full or in modified form by State legislatures. (5) The assistance of all members of the A. O. U. in furthering these undertakings and in bringing all who are interested in bird study into the Union.

New suggestions which present themselves, or old ones which have not been acted upon are:

(1.) The publication of uniform leaflets for Audubon Societies. At present the weaker societies are unable to publish sufficient literature to meet the demands made upon them, while the larger ones are wasting their funds in printing almost identical matter. A publisher could easily select the best of the various leaflets now in circulation and issue them in large quantity at a very small cost, with the heading left blank for printing in the

name and seal of the individual societies. If one of the larger societies would take the matter up, arrangements could no doubt be made with a publisher and the support of all the other societies secured.

(2.) The need of a cheap monthly magazine devoted to popular ornithology which could serve as an organ for the various Audubon societies and keep the members in touch with their work. All societies which have reached a membership of several thousand realize that it is impossible to communicate with their members more than once or twice a year, owing to the cost of postage, and the success of the societies depends largely upon keeping in communication with their members.<sup>1</sup>

(3.) The need of assistance from all true ornithologists in guiding beginners to the proper fields of ornithological research, in discouraging collecting by those who are not contributing to the advancement of the science, and especially in the suppression of the *trade in birds' eggs*.

(4.) The earnest effort of all bird protective associations and members of the Union, in bringing about a better regard for our birds in the South and West.

Respectfully submitted,

WITMER STONE,

*Chairman.*

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<sup>1</sup>Since this was written, I have learned that a bi-monthly magazine of ornithology, to be called 'Bird-Lore' has been established under the editorship of Mr. Frank M. Chapman. This journal will be the official organ of the Audubon Societies, and the first number, which will be issued in February, will contain reports of their work for the year.



## GENERAL NOTES.

**The Black-capped Petrel (*Æstrelata hasitata*) on the Ohio River at Cincinnati.**—A specimen of this oceanic bird was noticed yesterday (Oct. 5, 1898) on the river at the east end of Cincinnati by two young men who approached it in a boat, close enough to hit it with an oar. It was brought alive to the Museum of Natural History. Its skin will be preserved in the museum. It proved to be an adult female.

A young male of the same species was taken the same evening on one of the bridges connecting Cincinnati with the Kentucky shore. It was seen fluttering about the electric lamp, and finally struck the glass globe and fell down on the bridge where it was picked up by the bridge watchman. The specimen was brought to the Zoölogical Gardens in Cincinnati where it lived one day and was then given to Mr. Charles Dury, in whose collection the skin will be preserved. Mr. Dury, who skinned both birds, tells me they were extremely emaciated and their digestive canals contained nothing but a little watery fluid.

A few days after the capture of these two specimens at Cincinnati my attention was called to a notice in a Kentucky paper about an "arctic gull" captured by Captain W. L. Thomas of the ferry boat at Augusta, Ky. I at once wrote to Captain Thomas for more information. He very kindly sent me the skin of the bird together with the following notes: "The bird was discovered and caught near my boat, last Tuesday a week ago (Oct. 4) just at daybreak, exhausted; for a few days he showed fight and appeared to wander all after night... I kept him alive for ten days by forcing small minnows down his throat... The specimen I would call a Fulmar." Captain Thomas's identification proved correct. The bird is the Black-capped Petrel, and was the third specimen of its kind brought by the same gale to the Ohio River between Ohio and Kentucky. —JOSUA LINDAHL, *Cincinnati, O.*

**The Purple Gallinule (*Ionornis martinica*) in Ohio.**—On Nov. 16, 1898, a fine young specimen of this species, which had been shot the day before on the banks of the Scioto River, was brought to me. This is, as far as I know, the only time this species is recorded from the fall in Ohio. The phase of plumage is an interesting one; the bird is just beginning to change from the plumage of the young into that of the old bird. The age of this bird, and also the date on which it was taken, settle the question whether this species breeds in Ohio or not, beyond all doubt in the affirmative. The bird is now in my collection. —W. F. HENNINGER, *Waverly, Ohio.*

**The Corn Crake in Nova Scotia.**—During his visit to this city recently I had the pleasure of exhibiting to Mr. Frank M. Chapman a case of birds

containing specimens which I have collected and mounted in years gone by and among which he recognized a specimen of the Corn Crake (*Crex crex*) which I had inadvertently identified as another species.

As regards the history of this bird, I may briefly mention that nearly a quarter of a century ago, in the month of October, while Snipe shooting in a boggy, swampy situation, my dog flushed the strange bird which, flying steadily, was readily brought down, and its like has never since been seen in this vicinity.—JAMES MCKINLAY, *Pictou, N. S.*

**The Stilt Sandpiper in Maryland.**—As records of *Micropalama himantopus* are rather scarce along the Atlantic coast, and as there is but one record for Maryland, the often quoted Patuxent River bird taken by Mr. H. W. Henshaw on Sept. 8, 1885, the following may be of interest. On Sept. 9, while shooting Reedbirds on Gunpowder Marsh, Baltimore Co., three Sandpipers came along, were whistled down and all three shot. They proved to be Stilt Sandpipers. Two were badly cut up but the third formed a good skin and is now in my collection. On the same day another bird, in company with two Ring Plovers (*Egialitis semipalmata*) was watched for over an hour, through a field glass, but its actions were only those of any Sandpiper. It was on mud where there is usually a small pond in the marsh on Graces Quarter Ducking Shore, a point about five miles from where the others were shot and near the mouth of Gunpowder River, both points being fifteen miles in an air line from the centre of Baltimore city. Being on private property this last bird was not shot. It, however, came within fifteen feet of me and at no time was over one hundred and fifty feet away during the hour I watched it.—F. C. KIRKWOOD, *Baltimore, Md.*

**The Turnstone (*Arenaria interpres*) in Minnesota.**—On May 27, 1889, (see O. & O., Vol. XIV, p. 168) my friend, Mr. Geo. G. Cantwell, secured what he thought the first specimens (five birds) of this species for the State, in Lac Qui Parle Co., but in the same journal (see O. & O., Vol. XV, p. 16) I recorded the capture of a male on the shore of Lake Minnetonka, at Excelsior, on May 24, 1888.

On May 29, 1891, at Madison, Minn., a fine adult male was brought to me which was found dead near the railroad with part of the left wing missing, caused, no doubt, by the bird flying against the telegraph wire.

While at Mankato, Minn., on Nov. 1, 1898, I was permitted, through the kindness of my friend, Prof. U. S. Cox, in charge of the Department of Biology and Geology of the Mankato State Normal School, to examine the collection of the school. I found there a mounted specimen of an adult Turnstone but, unfortunately, without any data whatever. Upon inquiry I learned that the specimen had been brought, together with a small collection of mounted birds collected near the city, by Mr. D. L. Rose. Mr. Rose informed me that he collected the specimen about 1875 near the city of

Mankato. Mr. Rose, therefore, is entitled to the credit of securing the first specimen for the State, for his bird antedates my first capture by thirteen, and Mr. Cantwell's by fourteen years.—ALBERT LANO, *Aitkin, Minn.*

**Note on *Meleagris gallopavo fera*.**—In discussing the Turkey question (Auk, XIV, July, 1897, pp. 272-275) I neglected to express a preference for Vieillot's term *fera*, and make the formal combination here given. Also, there occurs on p. 274 the typographical error of *pera* for *fera* in citing the Gal. Ois. II, 1825, p. 10, pl. 201, and I inadvertently used the term *sylvestris* instead of *fera* in citing the Nouv. Dict. d'Hist. Nat. IX, 1817, p. 447.—ELLIOTT COUES, *Washington, D. C.*

**The Golden Eagle and Barn Owl at Northville, Wayne Co., Mich.**—A short time ago a Golden Eagle (*Aquila chrysaëtos*) was caught at this place. It had div'd down upon a flock of Quail and had become entangled in a thick growth of raspberry bushes, and a man standing near by rushed upon the monster bird and caught it alive. This is the first specimen of its kind ever taken in this part of Michigan, and according to all indications it had been in captivity before, for it is perfectly docile, and will devour its food in the presence of bystanders without fear. This Eagle not being in its full adult plumage I wrote to Dr. Elliott Coues upon the subject who, in reply, said, "If your Eagle is feathered down the shanks to the roots of the toes it is the Golden Eagle," which proves its identity beyond a doubt.

Sometime during the last days of October, 1898, a Barn Owl (*Strix pratincola*) was shot by Mr. Abraham Sheffield near Northville, Michigan. It has been mounted and is now in possession of Stark Bros., of that place. The Barn Owl is *very rare* in Michigan, and very few have been found in the State.—JAMES B. PURDY, *Plymouth, Michigan.*

**New Name for the Genus *Tetragonops*.**—*Tetragonops* Jardine (Edinb. New Phil. Journ. II, No. 2, Oct. 1855, 404), as a genus of American Barbets is preoccupied by *Tetragonops* Gerstäcker (Monatsb. Akad. Berlin, Feb. or March, 1855, 85), and I will propose in its stead *Pan*, the name of a mythological god of the forests. The two known species will then be *Pan rhamphastinus* (Jardine), and *Pan frantzii* (Scl.).—CHAS. W. RICHMOND, *U. S. Nat. Museum, Washington, D. C.*

**Notes on the Myology of *Hemiprocne zonaris*.**—It might be supposed that the anatomical possibilities of so small a group as the Swifts had been exhausted, but that this is not the case is shown by an examination of *Hemiprocne zonaris*, for which I am indebted to Mr. C. B. Taylor of Jamaica. The cranium is typically cypseline, so are the wing muscles, although the deltoid is small, as in the majority of the true Swifts, there being an apparent tendency to reduction in the number

of wing muscles in birds which fly, so to speak, by main strength—and in which the humerus is reduced in length. The leg muscles are curious first by the absence of the *peroneus longus*, a muscle which runs from the head of the tibia to the upper end of the tarsus in Passeres, and second by the great simplification of the deep plantar tendons. In the Passeres, as we all know, one tendon flexes the first digit of the foot, while another with three branches flexes the three front toes. In the true Swifts, Macropterygidæ, the tendon of the hind toe is attached by a short slip to the branch running to the fourth digit. In the other Swifts so far examined the two main tendons are completely fused for some distance although worked by two muscles. Now in *Hemiprocne* while the muscle which ordinarily works the front toes, the *flexor perforans*, is present, it has no separate tendon, but is attached to the muscle of the first digit, *flexor longus hallucis*, and is diverted to the work of pulling on its tendon, which as usual runs up over the outer side of the belly of the muscle. Below this single tendon sends off four slips, one to each digit, thus presenting the simplest condition possible and literally realizing Gadow's statement that the *flexor longus hallucis* is really a common flexor of all digits. If a good generic character is needed for *Hemiprocne*, here it is. — F. A. LUCAS, *Washington, D. C.*

**The Authority for the Combination *Cypseloides niger borealis*. —** In the Eighth Supplement to the A. O. U. Check-List (Auk, Jan., 1897, XIV, 126) the second reference under *Cypseloides niger borealis* is credited to Drew, Auk, Jan., 1885, II, 17. Turning to Mr. Ridgway's 'Catalogue of North American Birds,' it is seen at once that Mr. Drew was not the first to write *Cypseloides niger borealis*; and unless one still earlier be found, the proper quotation is Ridgway, Proc. U. S. Nat. Mus., Aug-27, 1880, III, 188. — HARRY C. OBERHOLSER, *Washington, D. C.*

***Oethœca frontalis* (Lafr.) and *Cardinalis granadensis* Lafr. —** In a paper published in the *Revue Zoologique*, 1847, p. 67, Lafresnaye described a number of birds from Peru, Colombia, etc., collected by M. Delattre, the types of which are now in the Philadelphia Academy. Most of these are well known, but two — *Tyrannula frontalis* and *Cardinalis granadensis* — have been generally overlooked, and neither name appears in the British Museum Catalogue of Birds.

*Tyrannula frontalis* was redescribed by Sclater as *Oethœca citrinifrons* (P. Z. S., 1862, 113), which name must of course be relegated to synonymy. *Cardinalis granadensis* from Colombia is probably a synonym of *C. phoeniceus* Bp. (type locality, Venezuela), though it should be considered if any subdivision of this species is deemed advisable. — WITMER STONE, *Acad. Nat. Sciences, Philadelphia.*

***Pica pica hudsonica* in California. —** In August last the Black-billed Magpie was found abundantly about Alturas, Modoc County. I believe

this is a record for California. There is no question as to the identity for I am familiar with both our American forms. *P. nuttallii* occurs as far north along the Sacramento River as Shasta County.—R. C. MCGREGOR, U. S. Fish Hatchery, Battle Creek, Cal.

**On the Genus *Astragalinus* Cabanis.**—When Cabanis established the genus *Astragalinus* (Mus. Hein. I, July, 1851, 159) he mentioned no type, but ranged under the generic name *A. tristis*, *A. mexicanus*, and *A. columbianus*, and in a footnote mentions also *A. pistacinus* and *A. yarrelli* "as the nearest relatives of the type of the genus," which must, therefore have been one of the above mentioned species. In the catalogue of the Fringillidæ in the collection of the British Museum (Cat. Birds Brit. Mus. XII, 1888, 192), Dr. Sharpe gives the type as *Fringilla tristis* Linnæus; and that he is correct in doing so is proven by the fact that the only one of the three species named by Cabanis to be made the type of another supposed genus is *Fringilla psaltria* Say (conspecific with *Carduelis mexicanus* Swainson), which Cassin, fourteen years later, designated as type of his subgenus *Pseudomitris* (Proc. Ac. Nat. Sci. Phila. 1865, 93). This clearly establishes *Fringilla tristis* as the type of the genus *Astragalinus*, even were *F. psaltria* (with its subspecies *mexicanus* and *columbianus*) generically distinct, which they are not. *Carduelis lawrencei* Cassin is also an *Astragalinus*, and the only known species of the genus not mentioned by Cabanis. The genus is confined, so far as known, to North America, one form barely entering the northern frontier of the southern continent. This is *Astragalinus psaltria columbiana*, which ranges from Colombia to Costa Rica. *Carduelis yarrelli* Audubon, which Cabanis, in the footnote cited above, refers to *Astragalinus* is a *Spinus*, as are all other purely South American species, as well as all of those peculiar to Mexico and Central America (excepting, of course, the subspecific forms of *Astragalinus psaltria*).

The North American species and subspecies of *Astragalinus* are as follows:—

529. *Astragalinus tristis* (LINN.).

*A. [stragalinus] tristis* CABANIS, Mus. Hein. I, July, 1851, 159.

529a. *Astragalinus tristis pallidus* (MEARNS).

529b. *Astragalinus tristis salicamans* (GRINNELL).

*Spinus tristis salicamans* GRINNELL, Auk, XIV, Oct. 1897, 397.

GEOG. DIST.—Pacific coast district of United States.

530. *Astragalinus psaltria* (SAY).

*Astragalinus psaltria* RIDGWAY, Proc. U. S. Nat. Mus. III Aug. 27, 1880, 177.

530a. *Astragalinus psaltria arizonæ* (COUES).

*Astragalinus psaltria arizonæ* RIDGWAY, Proc. U. S. Nat. Mus. III, Aug. 27, 1880, 177.

530b. *Astragalinus psaltria mexicanus* (SWAINS.).

*Astragalinus psaltria mexicanus* RIDGWAY, Proc. U. S. Nat. Mus. III, Aug. 27, 1880, 177.

531. *Astragalinus lawrencei* (CASSIN).

*Astragalinus lawrencei* RIDGWAY, Proc. U. S. Nat. Mus. III, Aug. 27, 1880, 177.

The remaining species ranged under *Spinus* in the A. O. U. Check-List should remain in that genus. — ROBERT RIDGWAY, *Washington, D. C.*

**Lapland Longspur** (*Calcarius lapponicus*) in **Massachusetts in Winter**. — The statement that there is but one winter record of the Lapland Longspur in New England (Brewster's *Minot's Land and Game Birds of New England*, page 194) makes it interesting to record a second occurrence. The record above was at Brandon, Vermont, February 21, 1879. On February 22, 1892, Mr. H. F. Kendall of Cambridge, Mass., shot a Longspur (unsexed) among a flock of Horned Larks at Duxbury, Mass. There were two Longspurs in the flock feeding on the beach, but one separated from the Larks as they flew up, and could not be found. The fact that the birds were in winter plumage among a flock of Horned Larks, would seem to show that they could hardly have been early migrants. The specimen that was shot is in Mr. Kendall's collection. — MINOR DAVIS, *Cambridge, Mass.*

**Henslow's Sparrow in Ontario**. — I have to record the first capture of Henslow's Sparrow (*Ammodramus henslowii*) in Canada, and its presence in fair numbers at different localities. At the north of the Thames River (Lake St. Clair) two were taken on May 24, and June 12, 1898; while near Sarnia, forty miles north, on July 2, two more were shot. Altogether about twelve specimens were seen and heard, and it seems probable that they are regular breeders in the western end of Ontario, their unobtrusive habits accounting for their not having been previously noted.

The birds were all in wet meadows not far from marshy ground, and while not particularly wild, were so difficult to see on the ground, and so shy of exposing themselves above it, that we saw probably only a few of those actually present. — W. E. SAUNDERS, *London, Ont.*

**On the Generic Name *Aimophila* versus *Peucaea***. — In a footnote on page 226 of 'The Auk' for July, 1898, I expressed my inability "to discover any characters sufficient to separate *Peucaea* from *Aimophila*, unless the former be restricted to *P. aestivalis*, *P. botteri*, and *P. cassini*." After careful reconsideration of the matter, I am only the more firmly convinced that the generic name *Aimophila* must be used for *Ammodramus ruficeps* Cassin, and its subspecies, together with *Peucaea carpalis* Coues. Some doubt exists as to the latter, the relationship of which is without doubt closer to *Aimophila sumichrasti* Lawrence than to any other species; but in any event, *P. carpalis* is not a *Peucaea*, and since it must be removed from the last named genus (in event of its recognition as dis-

tinct from *Aimophila*), it may as well be referred, at least provisionally, to *Aimophila*. Whether *Zonotrichia mystacalis* Hartlaub, *Z. quinquestriata* Sclater & Salvin, *Hæmophila humeralis* Cabanis, *Aimophila acuminata* Lichtenstein, *Hæmophila lawrencii* Salvin & Godman, and *Chondestes ruficauda* Bonaparte, are to be retained in *Aimophila*<sup>1</sup> or not has nothing to do with the case as affecting the nomenclature of the A. O. U. Check-List.

It therefore seems evident that the nomenclature of the A. O. U. Check-List requires modification in the following respects:—

(1) The interpolation of the genus *Aimophila* Swainson (Classification of Birds, II, 1837, 287, type, by elimination, *Pipilo rufescens* Swainson);

(2) Change in generic names of nos. 579 to 580b, inclusive, which should read as follows:—

579. *Aimophila carpalis* (COUES).

580. *Aimophila ruficeps* (CASSIN).

580a. *Aimophila ruficeps scottii* (SENNETT).

580b. *Aimophila ruficeps eremœca* (BROWN).

(3) Interpolation of an additional subspecies of *A. ruficeps*, as

580c. *Aimophila ruficeps sororia* RIDGW. (Auk, XV, July, 1898, p. 226), from the mountain districts of southern Lower California.—  
ROBERT RIDGWAY, *Washington, D. C.*

**Further Notes on *Dendroica kirtlandi*.**—My paper on Kirtland's Warbler published in the last number of 'The Auk' (Vol. XV, pp. 289–293), requires an addition and a correction as follows: Mr. B. T. Gault calls my attention to the record of a capture of a specimen of this species by Mr. J. E. Dickinson, in Winnebago Co., Illinois, May 25, 1894, published in Bulletin No. 4 of the Nelson Ornithological Chapter (Oberlin, O., Jan. 15, 1895); and Mr. A. H. Jennings writes that his inclusion of the species in his nominal list of the birds of New Providence (Johns Hopkins University Circular, VII, 63) was based not on one but on eight specimens.

With Mr. Cory's Florida specimens recorded in the same number of 'The Auk' in which my paper appeared, these additions raise the total number of known specimens of this Warbler to seventy-five, of which fifty-five have been taken in the Bahamas and twenty in the United States.—FRANK M. CHAPMAN, *American Museum of Natural History, New York City.*

**Proper Name for Macgillivray's Warbler.**—Macgillivray's Warbler was one of those western species discovered by John K. Townsend 1834–

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<sup>1</sup>I have already made *Aimophila superciliosa* Swainson, the type of a new genus, *Plagiospiza* (Auk, XV, July, 1898, p. 242).

37 on the Columbia River and sent by him to Audubon for publication in the 'Birds of America.'

When Audubon received the first specimens of this bird he considered it identical with the Mourning Warbler of the East, notwithstanding that Townsend regarded it as distinct, and not having published a plate of the latter species he drew one from these western specimens and issued it with the title *Sylvia philadelphia*.

Upon Townsend's return he demonstrated to Audubon that the two birds were distinct and a drawing of the eastern species was thereupon published, also (this time correctly) entitled *Sylvia philadelphia*.

The fifth volume of Audubon's 'Ornithological Biography,' which appeared soon after, contained the accounts of the two species, the western one being described as new under the name of *Sylvia macgillivrayi*.

Townsend meantime prepared his 'Journal' for publication and in the appendix included a list of the birds found by him in the West, and descriptions of such as had not already been described by Audubon.

Among the latter was this Warbler which he called *Sylvia Tolmiei*, after W. F. Tolmie an officer of the Hudson Bay Company whose acquaintance he had made at Fort Vancouver.

Townsend supposed that Audubon would use this name, as he had indicated it on the specimens that he had sent him, and he was much annoyed to find that he had substituted *Sylvia macgillivrayi* for it, claiming at the same time that his own name *tolmiei* had priority<sup>1</sup>.

This claim has not been recognized in late years, but investigation shows that Townsend's 'Journal' was issued and received at the Philadelphia Academy by April 16, 1839, while Audubon's fifth volume was not received at the London Athenæum until June 22 of the same year, and did not of course reach America until later still.

These facts show that Townsend's name has clear priority, and in the interests of accuracy and justice it is a satisfaction to make the correction.

Macgillivray's Warbler should therefore stand in our list as *Geothlypis tolmiei*; whether or not the common name shall also be changed to Tolmie's Warbler we shall leave to the judgment of the A. O. U. Committee.  
— WITMER STONE, *Acad. Nat. Sciences, Philadelphia*.

**Sprague's Pipit near New Orleans, La.**— On Nov. 24, 1898, I found in the drier parts of a favorite Snipe field, across the Mississippi from New Orleans, five Sprague's Pipits (*Anthus spragueii*): I had found them, as had also Messrs. Pring, Kopman, and W. B. Allison, in the vicinity of the city before, but these were the first I had seen for some years, and were earlier than any noted in former years. I flushed the birds repeatedly, shot one, a female, and had excellent opportunities for watching their

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<sup>1</sup> Jour. A. N. S. Phila. VIII, 1839, p. 159.



towering flight, and hearing the notes that so markedly differ from those of *A. pensylvanicus*. — A. ALLISON, *New Orleans, La.*

**The Carolina Wren (*Thryothorus ludovicianus*) at Peace Dale, R. I.** — I have been very much puzzled a good many times during the past summer by hearing, in the near neighborhood of my house here, the notes of the Cardinal Bird given with great distinctness and for several minutes together. Every time when I have tried to find the author of the notes he has managed to escape observation. On the 21st of October, long after I had supposed the mysterious visitor had gone south, I heard the note very plainly and devoted half an hour to looking for the bird. I was so fortunate on this occasion as to get a good glimpse of the singer, and it proved to my astonishment to be a fine male of the Carolina Wren. As soon as I saw him he disappeared in company with his mate, both of them uttering the characteristic alarm note which the writers tell us of. I did not shoot the bird but feel entirely sure of the identification, as I distinctly saw the line above the eye, which is easily seen at tolerably close quarters. Immediately after the 21st we went through a long, cold rain storm and I supposed then I should not hear the Wren again. But on the 28th of October I did hear him singing with great spirit and for some minutes together. This is now the 28th of November and we have passed through a blizzard which began Saturday afternoon, the 26th, and has been without any doubt as severe a blizzard as we have ever experienced in this part of New England. Snow has fallen here to a depth rather difficult to estimate, but on the level it cannot be less than eight inches; of course, being accompanied by a very high wind it drifted enormously, — I observed several exhausted birds, or at least if not exhausted more or less disabled by the storm. While investigating the damage done in my garden *I again heard my friend the Carolina Wren*. This being the third time that he has intensely surprised me, I lose no time to report it. Is it common for Carolina Wrens to linger beyond the summer time as far north as this? I cannot find any record of it and imagine that I have a very odd specimen of the bird here. — R. G. HAZARD, *Peace Dale, R. I.*

**The Finishing Stroke to Bartram.** — I have changed not, and see no reason to change, my view of Bartram's case published in *Pr. Phila. Acad.* 1875, pp. 338–358, where I contend that he is a binomial author who sometimes lapses, and whose identifiable binomials which rest upon description are available in our nomenclature. On that occasion I inadvertently upon the fact that Bartram had been systematically ignored, though freely used when we wanted some binomial convenience like *Vultur atratus* or *Corvus floridanus*, for example — two specific names which still hold their proper place in the A. O. U. Check-List, showing the inherent difficulty of doing entire injustice to Bartram. But to be

consistent the Committee, in which I have always been in a minority of one on this subject, must eradicate these two names, thus giving Bartram his *coup de grâce*.

(1.) After Bartram's *Vultur atratus* of 1791 the first tenable specific name of the Black Vulture would appear to be *urubu* Vieill., Ois. Am. Sept. 1807, pl. 2; which, joined with the generic name *Catharista* Vieill., Anal. 1816, p. 21, yields *Catharista urubu* Vieill., Nouv. Dict. d'Hist. Nat. XII, 1817, p. 401, as the required onym.

(2.) After Bartram's *Corvus floridanus* of 1791, the next name of the Florida Jay appears to be *Garrulus cyaneus* Vieill., Nouv. Dict. d'Hist. Nat. XII, 1817, p. 476. This has been cited as a nomen nudum, as by Baird, 1858; that it is not such, but rests upon an unmistakable though not very good description is evident from the following verbatim copy of Vieillot's account: "Le Geai azurin, *Garrulus cyaneus* Vieill., se trouve aux Florides et ne pénètre point dans le nord des États-Unis; du moins je ne l'y ai pas rencontré. On ne peut le confondre avec le *geai bleu huppé*, puisqu'il est plus petit, qu'il n'a point d'aigrette sur la tête, et que tout son plumage est généralement d'un bleu d'azur. Latham le rapporte au *geai de Steller*, mais celui-ci est huppé et ne porte pas le même vêtement." Whence the onym of the Florida Jay would be *Aphelocoma cyanea*. The next name in order is *G. caerulescens* Vieill., *ibid.* p. 480, the description of which seems to indicate the same bird, but the type locality, "Kentucky," is beyond this Jay's now known range. No doubt, however, attaches to "An Account of the Florida Jay, of Bartram," by Ord, in Journ. Acad. Phila. I, 1818, pp. 345-347, where Vieillot's name *Garrulus caerulescens* is adopted. Thus we have only to decide whether the bird shall be known as *Aphelocoma cyanea* or *A. caerulescens*. We next come upon two names by the same author and of ostensibly coequal dates. These are *Corvus* (*Garrulus*) *floridanus* Bp., Ann. Lyc. N. Y., II, 1828, p. 58, and *Garrulus floridanus* Bp., Am. Orn. II, 1828, p. 59, pl. xiv, fig. 1. Part I, pp. 7-128, of the paper in the Annals has actual priority over the 2d vol. of the Am. Orn.; it was "read" Jan. 24, 1826, and published apparently in March, 1826; so that, if we could use *floridanus* as the specific name, it would be creditable to Bonaparte, after throwing out Bartram.

(3.) It is a necessary corollary of the foregoing proposition, that the use of the binomial *Corvus floridanus* by Bonaparte in 1826, and subsequently by Audubon, for the Florida Jay, precludes its use for the Florida Crow in the form *Corvus americanus* var. *floridanus* Baird, B. N. A. 1858, p. 568. The latter may, therefore, be renamed *C. a. pascuus*. This is a good Latin word, meaning of or relating to pastures; but I intend it to connote the same as *floridanus* in this instance, with allusion to the Spanish name of the country, said to have been called Pascua Florida or Pascua de Flores by Ponce de Leon, because he discovered it on Paschal or Easter Day of 1512.—ELLIOTT COUES, *Washington, D. C.*

**Rare Birds on Eastern Long Island.**—**AMERICAN BARN OWL** (*Strix pratincta*). On Sept. 30, 1898, a fine specimen of this bird was sent me to mount from Gardiners Island. It had been caught in a steel trap, and was in good condition. On October 12 another specimen was sent me from East Marion, L. I., which had also been caught in a steel trap. This was a male—the former a female. The stomachs contained the remains of field mice.

**DUCK HAWK** (*Falco peregrinus anatum*). A specimen of this bird, in juvenile plumage, was shot on Shelter Island on Oct. 2 and sent me to mount. It was a female, in good condition, but had scaled down on the bill of fare, from ducks to dragon flies—as the stomach contained the remains of several of these insects.

**FLORIDA GALLINULE** (*Gallinula galeata*). A specimen of this bird was shot on Shelter Island on Oct. 28, by a gunner, being the first instance of its capture here that has ever come to my notice. It was feeding and swimming amongst the reeds in a rather open pond, and was approached and shot without difficulty, exhibiting little shyness.—**WILLIS W. WORTHINGTON**, *Shelter Island Heights, New York*.

**Notes on Two Rare Birds from Long Island, N. Y.**—**MOURNING WARBLER** (*Geothlypis philadelphia*).—Giraud, in writing of this species in 1844 (*Birds of Long Island*, p. 65) says: "A few years since, a specimen was obtained by Mr. Bell on Long Island, the only one which I have known to have been procured here." So far as I am aware, there is no other published record of the occurrence of this species on Long Island, so I wish to place on record a specimen, now in the collection of the Brooklyn Institute of Arts and Sciences, taken at New Lots (now a part of the city of Brooklyn), in June, 1862, by George B. Brainerd.

**BICKNELL'S THRUSH** (*Turdus aliciae bicknellii*).—Since my previous records of this bird (*Auk*, Vol. X, p. 91), I have discovered four additional specimens. Three of them are in the Brooklyn Institute collection, and were collected at Parkville, Kings Co., L. I., by E. F. Carson and Frank Suydam—two of them on Oct. 12, 1892, the other Sept. 30, 1893. Dr. Wm. C. Braislin, of Brooklyn, also has a specimen which he has permitted me to record, collected by himself at Parkville on Oct. 3, 1894.—**ARTHUR H. HOWELL**, *Washington, D. C.*

**Springfield, Mass., Bird Notes.**—**STURNUS vulgaris**.—During the spring of 1897, nearly a hundred Starlings were liberated near Springfield, some of which survived the following winter, which was one of about the average in point of severity.

**OTOCORIS alpestris praticola**.—A flock of about twenty-five Prairie Horned Larks passed last winter in Longmeadow, just south of Springfield; their presence in this vicinity has never been recorded before.

**FALCO sparverius**.—About the middle of last March, a pair of Sparrow

Hawks took possession for breeding purposes, of an apartment in a dove-cote at my farm in Tatham in West Springfield, driving out a pair of Doves that were there in possession and destroying their nest. Their first egg was laid April 17, the second after an interval of two days, and three others, each, after an interval of one day. Incubation commenced after the fourth was laid. The male was at this time killed, but the female remained devoted to her work and on the 27th of May three Hawks were hatched, and the following day, another. One of the eggs proved not to be fertile. Incubation lasted thirty-four days, a period much longer than heretofore reported. During the whole of the time of incubation and the rearing of the young, the mother Hawk did not interfere with the wild birds that had adopted the territory in the vicinity of the dove-cote for their home.

A pair of Bluebirds nested in a bird-house within thirty feet, and Robins, Phœbes, Vesper Sparrows and other kinds all remained undisturbed in the immediate neighborhood, and the pair of Doves that were first made to give way for the Hawks, were permitted to rebuild in a place adjacent to their first home. The young of the Hawks were all successfully raised and are now well and happy in confinement.—ROBERT O. MORRIS, *Springfield, Mass.*

**Xema sabinii and Chordeiles virginianus sennetti—Two Additions to the Iowa Avifauna.**—My collection of Iowa birds contains two immature specimens of Sabine's Gull, both of which were taken on the sandbar immediately above Burlington, Iowa. No. 50, (S. U. I. No. 15981) ♂, was shot Oct. 15, 1891; No. 51, (S. U. I. No. 15982) ♀, Oct. 12, 1894. These I believe are the first records of this species for Iowa. The specimens are deposited at the State University of Iowa at Iowa City.

The Smithsonian Institution recently received a specimen of Sennett's Night Hawk from Mr. C. F. Henning of Boone, Iowa, shot four miles southeast of that place. This variety seems so far to have escaped Iowa observers and it gives me pleasure to add it to our list.—P. BARTSCH, *Washington, D. C.*

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## RECENT LITERATURE.

Torrey's 'A World of Green Hills.'<sup>1</sup>—The subtitle of Mr. Torrey's

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<sup>1</sup> A World of Green | Hills | Observations of Nature | and Human Nature | in the Blue Ridge | By | Bradford Torrey | . . . [Motto, = 2 lines and Seal] Boston and New York | Houghton, Mifflin and Company | The Riverside Press, Cambridge | 1898—16mo, pp. 285. Price, \$1.25.

little book — 'Observations of Nature and Human Nature' — is eminently descriptive of the character of this new collection of charming essays, devoted about equally to the birds, the flowers, and the people of that portion of the Blue Ridge where the States of West Virginia and North Carolina meet. While the reader is given delightful reminiscences of the scenery and natural products of the region as seen by a lover of nature in the closing month of spring, perhaps not less entertaining are his 'observations of human nature' which so delightfully flavor the book and break the tendency to monotony that a purely natural history relation by any writer, however gifted, is apt to present. The six essays here brought together are entitled 'A Day's Drive in Three States,' 'In Quest of Ravens,' 'A Mountain Pond,' 'Birds, Flowers, and People,' 'A Nook in the Alleghanies,' and 'At Natural Bridge.' The 'Quest for Ravens' was not a great success so far as finding Ravens was concerned; the anticipated "little store of 'first-hand knowledge'" was "a brace of interrogation points." The Ravens evaded acquaintanceship, but the reader of Mr. Torrey's book will not regret the length of this chapter that tells of the Raven hunt. In this, as in the other chapters, 'anthropology and ornithology,' and botany, are entertainingly blended. His successes and his disappointments in the ornithological line are narrated with an enthusiasm and a humor that appeals to the general reader as well as to the bird lover. He records, in the course of the book, much that is of permanent value from the standpoint of the naturalist, which an excellent index renders readily available. — J. A. A.

**Mrs. Maynard's Birds of Washington.**<sup>1</sup> — This little manual, prepared at the suggestion of the Audubon Society of the District of Columbia, is a credit to everyone concerned with its preparation. It gives untechnical descriptions of about 100 species of the birds most likely to be seen in the vicinity of Washington, with something about the habits of those that nest there, about a page being devoted to each species, many of the species being illustrated. There are also brief descriptions of the "migrants and winter residents," and a tabular 'List of All Birds found in the District of Columbia,' the latter by Dr. C. W. Richmond, and so arranged as to indicate the season of occurrence. Other supplementary lists follow of 'birds that may be seen in winter,' 'birds that nest within the city limits,' and lists of birds seen on certain days at particular points, based on the observations of several of the best known Washington ornithologists. The 'Introduction' (pp. 11-16), by Miss Florence A. Merriam, is filled with excellent advice as to how, where and when to

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<sup>1</sup> Birds of Washington | and Vicinity | including parts of Maryland and Virginia | By | Mrs. L. W. Maynard | with | Introduction by Florence A. Merriam | . . . [= motto, 3 lines] | Washington, D. C. | 1898. — 8vo, pp. 204, with numerous illustrations.

find birds in the vicinity of Washington, written with a directness, simplicity and fervor that must lend inspiration and comfort to the inexperienced bird lover. This is followed by a chapter 'About Birds in General' by Mrs. Maynard, which gives in the short space of three pages a surprisingly large amount of information about the generalities of the subject. This is followed by 'A Field Key to our Common Land Birds,' taken, by permission, from Chapman's 'Bird-life.' Then follows the descriptive matter forming the body of the work, as already detailed. The numerous illustrations are from Bulletins Nos. 3 and 54, published by the Biological Survey of the U. S. Department of Agriculture. As a local manual Mrs. Maynard's little book is in every way admirable, and must prove most welcome to the many amateur bird students of the District of Columbia. — J. A. A.

Blanchan's '**Birds that Hunt and are Hunted.**'<sup>1</sup>—The present is a companion volume to '**Bird Neighbors**', by the same author (see Auk, XV, 1898, p. 66), and is written from the same point of view, namely, "that of a bird-lover who believes that personal, friendly acquaintance with the live birds, as distinguished from the technical study of the anatomy of dead ones, must be general before the people will care enough about them to reinforce the law with unrestrained mercy. To really know the birds in their home life, how marvellously clever they are, and how positively dependent agriculture is upon their ministrations, cannot but increase our respect for them to such a point that wilful injury becomes impossible." The present volume treats of the Waterfowl, the Marsh and Shore Birds, the Gallinaceous Game Birds, and the Birds of Prey, or the leading North American forms of each in systematic sequence, with brief mention of their distinctive characters, etc., and very satisfactory biographies. The matter is very well chosen and skillfully put together, being well adapted to instruct and entertain any bird lover. The author does not forget neatly to make her points in behalf of the Herons and Terns and the Birds of Prey, and the whole animus and tendency of the book is in accord with the sentiments already quoted from the author's preface. The colored plates, originally published in the magazine '**Birds**,' are an invaluable aid in the determination of the species. It is only to be regretted that better examples of taxidermy could not have been chosen in some cases. We notice very few slips on the part of the author, but we must confess that it is a new fact to us that the blade-like bill of the Skimmer is ever used as "a sort of oyster knife to open mollusks." Also

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<sup>1</sup> **Birds that Hunt | and are Hunted | Life Histories of One Hun- | dred and Seventy Birds of | Prey, Game Birds and Water- | Fowls | By | Neltje Blanchan | Author of "Bird Neighbors" | With introduction by G. O. Shields (Coquina) | And Forty-eight colored Plates | New York | Doubleday and McClure Co. | 1898. — 8vo, pp. xii + 359. Price \$2.00.**

it may be of interest to the author to know that the American Museum of Natural History in New York has also a mounted specimen of the Great Auk, where it has been among its prominent exhibits for the last twenty years. — J. A. A.

Huntington's 'In Brush, Sedge, and Stubble.'<sup>1</sup>—Mr. Huntington's 'In Brush, Sedge, and Stubble' appeals alike to the sportsman, the naturalist, and the lover of art. The work is proposed as a series of "monographs on our feathered game," "written from the point of view of the sportsman, with a preference for the picturesque rather than the scientific.... In a word, we go out-of-doors from Montauk to San Lucas, and, listening to the whirring and whistling of wings, we observe the performance of dogs, and see America picturesque." The first two parts treat of the sage Grouse, the Sharp-tailed Grouse, and the Prairie Grouse.

The illustrations consist of half-tones from photographs of the birds described, and of hunting scenes and characteristic landscapes of the regions inhabited by the game under consideration, partly from nature and partly from sketches, principally by the author.

The illustrations are beautifully reproduced, abundant, picturesque, and exceedingly attractive. The text is very good ornithology, written, as stated by the author, from the sportsman's point of view, with more or less personal incident interspersed. All lovers of finely illustrated books relating to nature, and especially all sportsmen, will doubtless warmly welcome Mr. Huntington's 'In Brush, Sedge, and Stubble.' — J. A. A.

Oberholser on the Wrens of the Genus *Thryomanes*.<sup>2</sup>—The present paper of thirty pages deals with the Wrens of the *bewickii* group, of which 3 species and 12 additional subspecies are recognized, all the latter being variations, in most instances not strongly marked, of *Thryothorus* (*Thryomanes*) *bewickii* of the A. O. U. Check-List. The group ranges across the continent from the Atlantic to the Pacific, and from Pennsylvania, southern Minnesota, Colorado, and southern British Columbia southward to southern Mexico (Oaxaca), including the Socorro and Guadalupe Islands, off the west coast of Mexico. Of the 12 subspecies of *T. bewickii*, seven belong to the United States, the remaining five occurring in Mexico. In other words, 7 new sub-

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<sup>1</sup> In | Brush, Sedge, and Stubble | A Picture Book of | the Shooting-fields and Feathered | Game of North America | By | Dwight W. Huntington | . . . [= motto, 3 lines] | M D C C X C VIII | The Sportsman's Society | Cincinnati.—Folio, Pt. I, pp. 1-16; Pt. II, pp. 17-32; 2 pl. in half-tone and 2 in colors, and numerous half-tones in text.

<sup>2</sup> A Review of the Wrens of the Genus *Thryomanes* Sclater. By Harry C. Oberholser, Assistant Biologist, Department of Agriculture. Proc. U. S. Nat. Mus., Vol. XXI, No. 1153, pp. 421-450. Nov., 1898

species of *T. bewickii spilurus* and *T. b. leucogaster* of the Check-List are for the first time separated and named. The United States forms of the group are as follows: (1) *T. bewickii bewickii* (Aud.), of the eastern United States; (2) *T. b. cryptus*, Texas, Nuevo Leon, and Tamaulipas, and probably north to Kansas; (3) *T. b. eremophilus*, southern border for the United States, from western Texas and southern Colorado to south-eastern California, south over the tablelands of Mexico; (4) *T. b. charienturus*, coast region of southern California, from about Pasadena south into northern Lower California; (5) *T. b. drymæcus*, Sacramento and San Joaquin valleys west to the coast about San Simeon, California; (6) *T. b. spilurus* (Vigors), vicinity of San Francisco Bay, California; (7) *T. b. calophonus*, Pacific Coast, from Oregon north to southern Vancouver Island and the valley of the Frazer River, British Columbia; (8) *T. b. nesophilus*, Santa Rosa and Santa Cruz Islands, California; (9) *T. b. leucophrys* (Anthony), San Clemente Island, California; (10) *T. b. cerroensis* (Anthony), Cerros Island, Lower California. The other members of the group are (1) *T. b. percusus*, State of Jalisco, north to Central Zacatecas, south to Guerrero; (2) *T. b. murinus* (Hartl.), States of Hidalgo, Mexico, Tlaxcala, and northern Morelos, Mexico; (3) *T. b. bairdi* (Salv. & Godm.), Oaxaca, southern Puebla, and southwestern Vera Cruz, Mexico; (4) *T. insularis* (Lawr.), Socorro Island, Mexico; (5) *T. brevicaudus* Ridgw., Guadalupe Island, Mexico. Thus five of the forms are insular.

Mr. Oberholser is no doubt very keen at discriminating slight differences, not only in the present but in some other instances. The question is not so much whether the differences claimed exist, but the advisability of their recognition in nomenclature. The present group is apparently not exceptionally plastic, and the same methods carried out among North American birds in general would doubtless result in numberless similar minute subdivisions, which it would serve no good purpose to recognize as 'subspecies.' In the present case the rather startling results seem due rather to a new point of view as regards the value of slight differences than to the discovery of new characters.

We observe that Mr. Oberholser rejects the name *leucogaster* used by Baird for the Texan form, and renames it *cryptus*, on the ground that Baird did not give a new name in this instance but used the name *leucogaster* of Gould, through a misidentification of Gould's species; and that, therefore, "according to the usual procedure in such cases," Baird's name is unavailable—a point apparently well taken.

Incidentally Mr. Oberholser claims full generic rank for *Thryomanes* and *Anorthura*, and we believe with good reason.—J. A. A.

**Bangs on Birds from Colombia.**<sup>1</sup>—Mr. Bangs here reports on a third

<sup>1</sup>On some Birds from the Sierra Nevada de Santa Marta, Colombia. By Outram Bangs. Proc. Biol. Soc. Washington, Vol. XII, 1898, pp. 171-182. Oct. 31, 1898.



lot of birds, received from Mr. W. W. Brown, Jr., collected in May and June, 1898, at various localities in the Sierra Nevada de Santa Marta, Colombia, at altitudes ranging from 5000 to 8000 feet. The collection numbers about 300 specimens, representing 66 species and subspecies, of which 8, and one genus, are described as new, as follows: *Neocrex colombianus*, *Aulacorhamphus lautus*, *Leucuria* (gen. nov.) *phalerata*, *Elænia sororia*, *Grallaria spatiator*, *Spinus spinescens capitaneus*, *Diglossa nocticolor*, *Merula phæopyga minuscula*, *M. gigas cucuzela*. The new Hummingbird (*Leucuria phalerata*), remarkable for its pure white tail, is related to *Helianthea* and *Hemistephania*; a colored figure of it will be given in a future number of this journal. — J. A. A.

**Proceedings of the Indiana Academy of Science.**—The 'Proceedings' of the Indiana Academy of Science for 1897 (1898) contains (pp. 175-207) several short ornithological papers, as follows: (1) 'Some Indiana Crow Roosts,' by A. W. Butler (pp. 175-178), enumerating 13 roosts, with a population varying from a few thousands to tens of thousands each, while one roost was estimated to contain "one hundred thousand Crows." (2) 'Notes on Crow Roosts of Western Indiana and Eastern Illinois,' by John S. Wright (pp. 178-180),—brief notes on six or eight roosts. (3) 'Brünnich's Guillemot (*Uria lomvia*) an Addition to the Birds of Indiana,' by A. W. Butler (pp. 180-183),—previously published, in substance, in 'The Auk' (XIV, April, 1897, pp. 197-199). (4) Notes on the Birds observed in the vicinity of Richmond, Wayne County, Indiana,' by Alden H. Hadley (pp. 183-198),—an annotated list of 137 species. (5) 'Notes on Indiana Heronries,' by A. W. Butler (pp. 198-201). This is an attempt to enumerate all the heronries at present or formerly existing in Indiana. Evidence is given of the former breeding of the American Egret (*Ardea egretta*) in some numbers in the Kankakee Marshes in northern Indiana, as well as at various points in the lower Wabash Valley. The inference is drawn that the few birds of this species noted in the central and northern parts of the State after the breeding season are not stragglers from the southward, as formerly supposed, but migrants on their way south from breeding stations in the northern part of the State. (6) 'The Recent occurrence of the Raven in Indiana,' by A. W. Butler (pp. 201, 202). Reported as breeding as late as 1894 at Raven's Rock, in Martin and Dubois Counties, and as recently occurring in winter in the northeastern part of the State. (7) 'An Instance of Bird Ferocity,' by Glenn Culbertson (pp. 206, 207). A Loggerhead Shrike observed impaling a Sparrow Hawk on the thorns of an osage orange tree.—J. A. A.

**Recent Papers on the Great Auk.**—Under the title 'The Orcadian Home of the Garefowl,' Prof. Newton in 'The Ibis' for October describes a visit to the Holm of Papa Westray, the breeding place of the species

whose extirpation, so far as the Orkneys is concerned, was compassed in 1813 by Bullock.

In the Transactions of the Edinburgh Field Naturalists and Microscopical Society, Mr. Symington Grieve brings the history of the Great Auk down to the end of July, 1898, recording the further discovery of bones in kitchen middings on the coasts of Iceland and Denmark. Still more interesting, however, was the finding of a hollow cast of an egg of the Great Auk, determined as such by Prof. Steenstrup, in a deposit of the sub-glacial period in the southern part of Sweden, to the northeast of Falsterbo, by members of the Swedish Geological Survey.—F. A. L.

**Stickney and Hoffmann's 'Bird World.'**—This book is designed for use as a school reader for intermediate grades. It contains some seventy odd chapters most of which treat briefly of the commoner birds while others deal with various phases of bird-life or bird structure; thus there are chapters on 'The Coming of the Birds,' 'Bird Homes,' 'How Young Birds Get Fed,' 'Food of Birds,' 'About Birds' toes,' 'Birds' Bills,' etc. The material has been carefully selected and seems well adapted to interest children in bird-study.

The author has done wisely in securing the coöperation of a practical ornithologist and Mr. Hoffmann's name on the title page of her work is a guarantee of its freedom from serious errors. In two or three instances, however, more careful revision would have added to the accuracy of the author's statements. For example, on p. 22, feathers are said to grow on the toes of the Grouse; on p. 103 birds are stated to moult their feathers "one from one side, then one from the other," while the unqualified assertion that "Parrots hang themselves up at night by their beaks" requires considerable modification, and, as a matter of fact, the name 'Candelita' is not applied to the Redstart in the West Indian Islands, outside of Cuba.

The book is profusely and well illustrated by ten full-page drawings by Mr. Thompson, eight half-tone color photographs of mounted birds, pen and ink outlines of birds' wings, bills, feet, tails, etc., cuts from the publications of the Department of Agriculture, and other illustrations from 'The Osprey,' including several drawings by Mr. Fuertes.

An appendix gives a color key to fifty common birds, and lists of commoner birds grouped according to their local distribution, and whether beneficial or injurious, etc.—F. M. C.

**Publications Received.**—Bangs, Outram. On some Birds from the Sierra Madra de Santa Marta, Colombia. (Proc. Biol. Soc. Wash. XII, 1898, pp. 171-182.)

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<sup>1</sup> Bird World | A Bird Book for Children | By | J. H. Stickney | Assisted by  
| Ralph Hoffmann | — | Boston, U. S. A. | Ginn & Company, Publishers |  
The Athenæum Press | 1898 | 12 mo., pp. vi + 214. Numerous illustrations.  
Price, 70 cents.

**Beal, F. E. L., and Judd, Sylvester D.** Cuckoos and Shrikes in their Relation to Agriculture. Bull. No. 9, U. S. Depart. of Agric., Division of Biological Survey. 8vo, pp. 26, 1898.

**Blanchan, Neltje.** Birds that Hunt and are Hunted. 8vo, pp. xii + 359 and 48 col. pll. New York, Doubleday & McClure Co., 1898. \$2.00.

**Campbell, Archibald J.** Nests, Eggs, and Play-grounds of the Australian Ptilonorhynchinæ, or Bower Birds, and their Allies. (Roy. Phys. Soc. Edinburgh, XIV, pp. 13-46, pll. i-iii.)

**Clark, Hubert Lyman.** The Feather-tracts of North American Grouse and Quail. (Proc. U. S. Nat. Mus. XXI, No. 1166, pp. 641-653.)

**Clarke, Wm. Eagle.** On the Ornithology of the Delta of the Rhone. (Ibis, Oct. 1898, pp. 465-485.)

**Elliot, D. G.** The Wild Fowl of the United States and British Possessions, or the Swan, Geese, Ducks and Mergansers of North America. 8vo., pp. xvi + 316, with 63 pll. New York, Francis P. Harper, 1898. \$2.50.

**Huntington, Dwight W.** In Brush, Sedge, and Stubble. Folio, pt. II. Sportsman's Society, Cincinnati, 1898.

**Maynard, Mrs. L. W.** Birds of Washington and Vicinity. 8vo, pp. 204. Washington, 1898.

**Newton, Alfred.** On the Orcadian Home of the Garefowl. (Ibis, Oct. 1898, pp. 587-592.)

**Oberholser, Harry C.** A Revision of the Wrens of the Genus *Thryomanes* Sclater. (Proc. U. S. Nat. Mus., XXI, No. 1153, pp. 421-450.)

**Rhoads, Samuel N.** (1) The Blue-gray Gnatcatcher. (American Friend, 11th mo., 1898.) (2) Owls, Mice and Moles. Questions in Economic Zoölogy. (Forest & Stream, Aug. 20, 1898.) (3) "Noxious" or "Beneficial"? False Premises in Economic Zoölogy. (Am. Nat., Aug. 1898.)

**Sclater, P. L.** (1) On the *Psophia obscura* of Natterer and Pelzeln. (Ibis, Oct. 1898, pp. 520-524, pl. xi.) (2) Chairman's Address, Seventh Session of the British Ornithologists' Club. (Bull. Br. Orn. Club, No. LVI.)

**Shelley, G. E.** (1) On the final Collections of Birds made by Mr. Alexander Whyte, F. Z. S., in Nyasaland. With Prefatory Remarks by P. L. Sclater. (Ibis, July, 1898, pp. 376-381.) (2) A List of Birds collected by Mr. Alfred Sharpe, C. B., in Nyasaland. With Prefatory Remarks by P. L. Sclater. (Ibis, Oct. 1898, pp. 551-557.)

**Torrey, Bradford.** A World of Green Hills, Observations of Nature and Human Nature in the Blue Ridge. 16 mo, pp. 285. Houghton, Mifflin & Co., Boston and New York, 1898. \$1.25.

**Tschusi zu Schmidhoffen, Vict. Ritter v.** Bemerkungen über die europäischen Graumeisen (*Parus palustris* Auct.) nebst Bestimmungsschlüssel derselben. (Orn. Jahrb., 1898, Heft 5.)

**American Journ. Sci.,** Oct.-Dec., 1898.

**Annals of Scottish Nat. Hist.,** Oct. 1898.

- Aquila**, No. 4, 1898.  
**Australian Museum.** Report of the Trustees for 1897.  
**Birds and All Nature**, IV, No. 6, Dec. 1898.  
**Bulletin British Orn. Club**, No. LVI, Oct. 1898.  
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**Forest and Stream**, LI, Nos. 14-27, 1898.  
**Iowa Ornithologist**, The, IV, No. 3, July, 1898.  
**Knowledge**, XXI, Nos. 156-158, 1898.  
**Maine Sportsman**, VI, Nos. 62, 63, Oct. and Dec., 1898.  
**Naturalist**, The, A Month. Journ. Nat. Hist. for North of England, Oct.-Dec., 1898.  
**Ornis**, Bull. du Comité Orn. International, IX (1897-98), No. 1.  
**Ornithologische Monatsberichte**, VI, Nos. 10-12, Oct.-Dec., 1898.  
**Ornithologische Monatsschrift des Deutschen Vereins zum Schutze der Vogelwelt**, XXIII, Nos. 10-12, Oct.-Dec., 1898.  
**Ornithologisches Jahrbuch**, IX, Nos. 5, 6, Sept.-Dec., 1898.  
**Our Animal Friends**, XXVI, Nos. 2-4, Oct.-Dec., 1898.  
**Ottawa Naturalist**, XII, Nos. 7-9, Oct.-Dec., 1898.  
**Proceedings of the Acad. Nat. Sci. Philadelphia**, pt. II, 1898, April-Sept.  
**Proceedings of the California Acad. of Sciences**, 3d Ser., Zoöl., I, Nos. 7, 8, and 10, 1898; Geol., I, pp. 129-160, 1898.  
**Proceedings of the Indiana Acad. of Science**, for 1897 (1898).  
**Science**, (2) Nos. 196-209, 1898.  
**Shooting and Fishing**, XXIV, Nos. 23-26, XXV, Nos. 1-11, 1898.  
**Zoölogist**, The, (4) Nos. 22-24, 1898.

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## NOTES AND NEWS.

A NEW ornithological magazine is announced by the Macmillan Company, to be called 'Bird-Lore.' It will be published bimonthly, under the editorship of Mr. Frank M. Chapman, the first number to appear in February, 1899. It will be "addressed to observers rather than to collectors of birds," and "will attempt to fill a place in the journalistic world similar to that held by the works of John Burroughs, Bradford Torrey, Olive Thorne Miller, and others in the domain of books." It will also be the official organ of the Audubon Societies, and a department devoted to their work and aims will be conducted by Mrs. Mabel Osgood Wright, the President of the Connecticut Audubon Society, and well known as a writer of popular books on natural history. It will also contain, in addition to the general articles, departments entitled 'Notes from Field and Study,' 'Hints for Teachers and Students,' etc. 'Bird-Lore' will be illustrated with reproductions of photographs of wild birds from life, show-

ing their nests and eggs, and the birds themselves in their natural haunts. In a word, it will be "a magazine devoted to the study and protection of birds," for which there is ample need and a wide field. Its publication by the Macmillan Company is a guarantee that 'Bird-Lore' as regards its typographical appearance and the character of the illustrations, will leave little to be desired.

'THE OSPREY,' to quote from a recent editorial in the October issue of this popular ornithological journal, "being a migratory bird, has flown southward from New York to Washington this autumn, and taken up its winter quarters in a new locality, of which it proposes to become a permanent resident." This is another way of saying that 'The Osprey' has changed hands, being now published by The Osprey Publishing Company of Washington, and edited by Elliott Coues and Theodore Gill, with the former editor, Walter Adams Johnson, as Associate Editor and Louis Agassiz Fuertes as Art Editor. The change of environment has apparently had a bad effect upon the health of 'The Osprey,' or, as its editor puts it, "The moulting process has proven somewhat severe and protracted this season, and the appearance of the bird in its new plumes has consequently been delayed." The choice of printer appears to have been unfortunate, for not only has 'The Osprey' been greatly delayed in its appearance but has lost much of the typographical lustre that was formerly so characteristic of this well-received magazine. The October and November numbers of last year appeared together the first week in January of this year. But "the December number is in press, and the issue for January is nearly ready," so that the lost time due to migration will doubtless be soon made up. In typography the second number under the new auspices is a great improvement over the first, so there is reason to hope that the former high grade of text and illustrations will be regained, and its literary standing be even surpassed. Its present editors are certainly too experienced in both literary and scientific work not to know how to run a magazine, even a 'popular' one, of ornithology. 'The Osprey' certainly has our most cordial wishes for its success.

THE A. O. U. Membership Lists, usually issued as a part of the January number of 'The Auk,' are deferred to the April number, owing to the unusual demand for space in the January issue for matter connected with the publication of the Ninth Supplement to the Check-List of North American Birds, and for the Report of the A. O. U. Committee on Protection of North America Birds. This valuable document will be reissued in pamphlet form and sold at cost, for distribution as a tract in behalf of bird protection. We must also ask the contributors of many valuable papers to pardon delay in their appearance, for the reasons already stated; they will all appear in due course, as fast as space can be found for their reception. Never in the history of 'The Auk' has so

much desirable matter been offered for publication, during the same length of time, as within the last four or five months; for which favors the Editors beg to extend sincere thanks.

SINCE OUR last notice of the New York Zoölogical Park (Auk, XV, Jan. 1898, p. 79), great progress has been made in laying out the grounds and in the construction of various buildings and dens for the animals. The Elk House has been completed and is fitted up for temporary use as offices and workshops. The Winter Bird House, to cost \$14,400, is ready to receive its roof. The foundation walls of the Reptile House, which will cost \$34,000, have been completed, and excavations have been made for the series of Bear Dens, and for eight Wolf and Fox Dens, and for the Beaver Pond. Also excavations for the Ducks' Aviary have been made, and about five hundred cubic yards of sandy earth hauled to form the dry runways for the Pheasants' Aviary. The Flying Cage for birds will be soon begun, to cost \$5000; it will be the largest structure of its kind in the world, with a length of 150 feet, a width of 75 feet, and a height of 50 feet. Among the many structures in contemplation are the Eagles' Aviary, for the Birds of Prey in general; six shelter houses for Deer and Moose, an Antelope House, to cost \$25,000, and a Monkey House, to cost \$40,000, some of which, if not the most of them, will probably be completed the present year. No money will be expended on buildings of a temporary character, but all are to be built for permanent use, and after the best plans that modern experience and research in such matters can suggest. The Monkey and Antelope Houses may be utilized in part at first for the reception of other tropical animals, till the proper buildings for them have been provided.

The Director states, in the last 'News Bulletin' of the Zoölogical Society (No. 3, Dec. 1898): "The New York Zoölogical park should, in fact, be so well equipped with buildings, dens, and aviaries, that by mid-summer, 1899, no type of animal need be turned away because there is no place in which to put it." It is expected that the park will be in readiness to receive contributions of animals in April, and that the formal opening of the park will take place in May. "When the Zoölogical Park is ready for animals, all members of the Society, and also friends who are not, are expected and requested to do their utmost to secure, as gifts for the Park, a large and continuous supply of fine, typical quadrupeds, birds, and reptiles, especially of North American forms."

As stated in our former notice, the Society is largely dependent upon membership and patrons' fees for its support, and is to be open free to the public. Among its advantages will be the encouragement and opportunities it will afford to not only students of animal life, but to animal painters and sculptors. The office of the Secretary, Madison Grant, is still at No. 11 Wall St., New York City, but the address of the Director, William T. Hornaday, is New York Zoölogical Park, 183d St. and Southern Boulevard, New York City.

## NINTH SUPPLEMENT TO THE AMERICAN ORNITHOLOGISTS' UNION CHECK-LIST OF NORTH AMERICAN BIRDS.

THE Eighth Supplement to the A. O. U. Check-List of North American Birds — the first since the appearance of the "second and revised" edition of the Check-List — was published in January, 1897 (*Auk*, XIV, pp. 117-135). The present (Ninth) Supplement gives a report of the action of the Committee on Classification and Nomenclature of North American Birds on all questions affecting the Check-List that have come before it for consideration since that date, covering the two years between January, 1897, and January, 1899. While a satisfactory decision was practicable in most cases, in quite a number of instances either the material available for examination was insufficient, or the questions were too complicated for the Committee to decide in the limited time available for concerted work. These have been referred to subcommittees for investigation, and will come up for final action at a future meeting of the Committee.

As in the previous Supplements, the numbers at the left of the scientific names furnish the means of easy collation of the Supplement with the Check-List. The interpolated species and subspecies are numbered in accordance with the provision made therefor in the Code of Nomenclature (p. 14, last paragraph).

<i>Committee</i>	{	ROBERT RIDGWAY, <i>Chairman</i> .
		J. A. ALLEN.
		WILLIAM BREWSTER.
		ELLIOTT COUES.
		C. HART MERRIAM.

## I. ADDITIONS TO THE CHECK-LIST, AND ACCEPTED CHANGES IN NOMENCLATURE.

FAMILY **URINATORIDÆ** (Check-List, 2d ed., p. 3). (*Cf.* ALLEN, *Auk*, XIV, July, 1898, 312.)

This becomes

FAMILY **GAVIIDÆ**.

GENUS **URINATOR** CUVIER. This becomes

GENUS **GAVIA** FORSTER.

*Gavia* FORSTER, Enchirid. Hist. Nat. 1788, 38. No type, but based exclusively upon the Loons. (Cf. ALLEN, Auk, XIV, July, 1897, 312.) Hence Nos. 7 to 11 will stand as follows:

7. **Gavia imber** (GUNN.).

*Colymbus imber* GUNNERUS, Trondh. Selsk. Skr. I, 1761 pl. iii.

*Gavia imber* ALLEN, Auk, XIV, July, 1897, 312.

8. **Gavia adamsii** (GRAY).

*Colymbus adamsii* GRAY, P. Z. S. 1859, 167.

*Gavia adamsii* ALLEN, Auk, XIV, July, 1897, 312.

9. **Gavia arctica** (LINN.).

*Colymbus arcticus* LINN. S. N. ed. 10, I, 1758, 135.

*Gavia arctica* ALLEN, Auk, XIV, July, 1897, 312.

10. **Gavia pacifica** (LAWR.).

*Colymbus pacificus* LAWR. in Baird's Bds. N. Am. 1858, 889.

*Gavia pacifica* ALLEN, Auk, XIV, July, 1897, 312.

11. **Gavia lumme** (GUNN.).

*Colymbus lumme* GUNNERUS, Trondh. Selsk. Skr. I, 1761, pl. ii, fig. 2.

*Gavia lumme* ALLEN, Auk, XIV, July, 1897, 312.

GENUS **GAVIA** BOIE (Check-List, 2d ed., p. 15). This becomes

GENUS **PAGOPHILA** KAUP.

*Pagophila* KAUP, Skizz. Entw.-Gesch. Eur. Thierw. 1829, 69.

Type, *Larus eburneus* PHIPPS = *L. albus* GUNN. (Cf. COUES, Auk, XIV, July, 1897, 313.)



39. **Gavia alba** (GUNN.). This hence becomes

**Pagophila alba** (GUNN.).

*Larus albus* GUNN. in Leem's Beskr. Finm. Lapp. 1767, 285.

*Pagophila alba* COUES, Auk, XIV, July, 1897, 313.

64. **Sterna tschegrava** LEPECH. This becomes

**Sterna caspia** PALLAS.

*Sterna caspia* PALLAS, Nov. Comm. Petrop. XIV, 1770, 582,  
pl. xxii, fig. 2.

This change is made on the grounds (1) that LEPECHIN was not binomial in the article in which he named *Sterna tschegrava*, and (2) that *Sterna caspia* PALLAS, of even date, was the name first used by a subsequent author. (Cf. COUES, Auk, XIV, July, 1897, 314.)

SUBGENUS **HALIPLANA** WAGLER (Check-List, 2d ed., p. 26).

This becomes

SUBGENUS **ONYCHOPRION** WAGLER.

*Onychoprion* WAGLER, Isis, 1832, 277. Type, *Sterna serrata*  
FORSTER = *S. fuliginosa* GMEL. (Cf. COUES, Auk, XIV,  
July, 1897, 314.)

- 82.1. **Diomedea immutabilis** ROTHSC.

**Laysan Albatross.**

*Diomedea immutabilis* ROTHSCILD, Bull. Brit. Orn. Club,  
No. IX, June, 1893, p. xlviii.

[B —, C —, R —, C —.]

GEOG. DIST. — Laysan Islands; San Geronimo and Guadalupe  
Islands, Lower California. (Cf. ANTHONY, Auk, XV, Jan. 1893,  
38.)

FAMILY **PROCELLARIIDÆ** (Check-List, 2d ed., pp. 29–  
38). For the two present subfamilies (PROCELLARIINÆ and

OCEANITINÆ) substitute the four following (Cf. COUES, Auk, XIV, July, 1897, 315):

SUBFAMILY **FULMARINÆ**, to include Nos. 85 to 87, inclusive, and No. [102], or the genera *Ossifraga*, *Fulmarus*, *Priocella*, and *Daption*.

SUBFAMILY **PUFFININÆ**, to include Nos. 86 to [101], inclusive, or the genera *Puffinus*, *Priofinus*, *Æstrelata* and *Bulweria*.

SUBFAMILY **PROCELLARIINÆ**, to include Nos. 103 to 108, inclusive, or the genera *Halocyptena*, *Procellaria*, and *Oceanodroma*.

SUBFAMILY **OCEANITINÆ**, to include Nos. 109 to 111, inclusive, thus leaving the subfamily without change.

The former subfamily PROCELLARIINÆ is thus divided into the three subfamilies FULMARINÆ, PUFFININÆ, and PROCELLARIINÆ, while the subfamily OCEANITINÆ remains as formerly. In order of arrangement, No. [102] comes next after No. 87.

SUBGENUS **PRIOCELLA** HOMBRON & JACQUINOT (Check-List, 2d ed., p. 31). This is raised to a full genus. (Cf. COUES, Auk, XIV, July, 1897, 315.) Hence No. 87 will stand as

87. **Priocella glacialisoides** (SMITH).

*Procellaria glacialisoides* SMITH, Illust. S. Afr. B. 1840, pl. 51.

*Priocella glacialisoides* B. B. & R. Water Bds. N. A. II, 1884, 373.

[92.1.] **Puffinus assimilis** GOULD.

Allied Shearwater.

*Puffinus assimilis* GOULD, P. Z. S. 1837, 156.

[B —, C —, R —, C —.]

GEOG. DIST. — Australian and New Zealand Seas, and northward in the Atlantic Ocean to the Madeira Islands; Sable Island, Nova Scotia (accidental). (Cf. DWIGHT, Pr. Biol. Soc. Wash. XI, 1897, 69.)

93.1. **Puffinus auricularis** C. H. TOWNSEND.

**Townsend's Shearwater.**

*Puffinus auricularis* C. H. TOWNSEND, Pr. U. S. Nat. Mus.  
XIII, Sept. 9, 1890, 133.

[B —, C —, R —, C —.]

GEOG. DIST. — Clarion Island, north to Cape San Lucas,  
Lower California. (Cf. ANTHONY, Auk, XV, Jan. 1898, 38.)

94. **Puffinus stricklandi** RIDGW. This becomes

**Puffinus fuliginosus** STRICKLAND.

*Puffinus fuliginosus* STRICKLAND, P. Z. S. 1832, 129.

The prior *Procellaria fuliginosa* GMEL. does not render *Puffinus fuliginosus* STRICKLAND untenable. (Cf. COUES, Auk, XIV, July, 1897, 315.)

SUBGENUS **PRIOFINUS** HOMBRON & JACQUINOT (Check-List, 2d ed., p. 33). This is raised to a full genus. (Cf. COUES, Auk, XIV, July, 1897, 315.) Hence No. [97] will stand as

[97.] **Priofinus cinereus** (GMEL.).

*Procellaria cinerea* GMEL. S. N. I, ii, 1788, 563.

*Priofinus cinereus* JACQ. & PUCH. Voy. Pôle Sud, Zool. III,  
1853, 145.

105.2. **Oceanodroma kaedingi** ANTHONY.

**Kaeding's Petrel.**

*Oceanodroma kaedingi* ANTHONY, Auk, XV, Jan. 1898, 37.

[B —, C —, R —, C —.]

GEOG. DIST. — Socorro and Clarion Islands, north to southern California.

[106.2.] **Oceanodroma cryptoleucura** (RIDGW.).

**Hawaiian Petrel.**

*Cymochorea cryptoleucura* RIDGW. Pr. U. S. Nat. Mus. IV,  
1882, 337.

*Oceanodroma cryptoleucura* RIDGW., Man. N. A. Bds. 1887, 71.

[B —, C —, R —, C —.]

GEOG. DIST. — Pacific and Southern Oceans; accidental in the District of Columbia. (Cf. W. PALMER, Auk, XIV, July, 1897, 297.)

GENUS **CYMODROMA** RIDGWAY (Check-List, 2d ed., p. 38).

This becomes

GENUS **FREGETTA** BONAP.

*Fregetta* BONAP. Comp. Rend. XLI, 1855, 1113. Type,  
*Thalassidroma tropica* GOULD = *T. melanogaster* GOULD.

Name sufficiently distinct from *Fregata* BRISS. (Cf. COUES, Auk, XIV, July, 1897, 315.) Hence No. [110] will stand as

[110.] **Fregetta grallaria** (VIEILL.).

*Procellaria grallaria* VIEILL. Nouv. Dict. d'Hist. Nat. XXVI,  
1817, 418.

*Fregetta grallaria* BONAP. Consp. Av. II, 1856, 197.

112. **Phaëthon flavirostris** BRANDT. This becomes

**Phaëthon americanus** GRANT.

*Phaëthon americanus* GRANT, Bull. Brit. Orn. Club, No.  
XLIX, Dec. 1897, p. xxiv; Ibis, April, 1898, 288.

GEOG. DIST. — West Indies and Atlantic coast of Central America, north to Florida and Bermuda; accidental in western New York.

*Phaëthon flavirostris* is the Indian Ocean species.

[113.1.] **Phaëthon rubricaudus** BODD.

**Red-tailed Tropic Bird.**

*Phaëton rubricaudus* BODD. Tabl. Pl. En. 1783, 57.

[B —, C —, R —, C —.]

GEOG. DIST. — South Pacific. Accidental near Guadalupe Island, Lower California. (Cf. ANTHONY, Auk, XV, Jan. 1898, 39.)

129. **Merganser americanus** (CASS.).

By a typographical inadvertence in the 2d. ed. of the Check-List the concordance of this species was left blank. (Cf. COUES, Auk, XIV, 1897, 316.) The figures should stand as in the 1st ed. of the Check-List, namely:

[B 611, C 521, R 636, C 743.]

The subgenera **Chaulelasmus**, **Mareca**, **Nettion**, and **Querquedula** (Check-List, 2d ed., pp. 49-51) are raised to the rank of genera. Hence Nos. 135 to 141 will stand as follows:

135. **Chaulelasmus streperus** (LINN.).

*Anas strepera* LINN. S. N. ed. 10, I, 1758, 125.

*Chaulelasmus streperus* BONAP. Geog. and Comp. List, 1838, 56.

136. **Mareca penelope** (LINN.).

*Anas penelope* LINN. S. N. ed. 10, I, 1758, 126.

*Mareca penelope* SELBY, Br. Orn. II, 1833, 324.

137. **Mareca americana** (GMEL.).

*Anas americana* GMEL. Syst. Nat. I, ii, 1758, 526.

*Mareca americana* STEPHENS, Gen. Zool. XII, ii, 1824, 135.

[138.] **Nettion crecca** (LINN.).

*Anas crecca* LINN. S. N. ed. 10, I, 1758, 126.

*Nettion crecca* KAUP, Skizz. Entw.-Gesch. Eur. Thierw. 1829, 95.

139. **Nettion carolinensis** (GMEL.).

*Anas carolinensis* GMEL. S. N. I, 1788, 533.

*Nettion carolinensis* BAIRD, Bds. N. Am. 1858, 777.

140. **Querquedula discors** (LINN.).*Anas discors* LINN. S. N. ed. 12, I, 1766, 205.*Querquedula discors* STEPHENS, Gen. Zool. XII, ii, 1824, 149.141. **Querquedula cyanoptera** (VIEILL.).*Anas cyanoptera* VIEILL. Nouv. Dict. d'Hist. Nat. V, 1816,  
104.*Querquedula cyanoptera* CASSIN, Ill. Bds. Cal. 1855, 82, pl. xv.148. **Aythya marila nearctica** STEJN. This becomes**Aythya marila** (LINN.).*Anas marila* LINN. S. N. ed. 12, I, 1766, 196.*Aythya marila* BOIE, Isis, 1822, 564.

GEOG. DIST. — Northern part of northern hemisphere, breeding far north. South in winter to Guatemala, Japan, China, Formosa, and the Mediterranean.

The American and Old World birds are not satisfactorily distinguishable. (Cf. BISHOP, Auk, XII, 1895, 293; SHARPE, Cat. Bds. B. M. XXVII, 1895, 359; ELLIOT, Wild Fowl, 1898, 286.)

151. **Clangula clangula americana** (BONAP.). (Cf. Eighth Suppl.) The authority for the combination should be*Clangula clangula americana* FAXON, Auk, XIII, 1896, 215.159. **Somateria mollissima borealis** (Check-List, 2d ed., p. 57. The authority should be C. L. BREHM, and the first reference, inadvertently omitted, is*Somateria borealis* C. L. BREHM, Isis, 1830, 998.

GENUS **EXANTHEMOPS** ELLIOT. Admitted as a subgenus of *Chen* BOIE, to include No. 170, *Chen rossii* (CASSIN).

*Exanthemops* ELLIOT, Ill. Am. Bds. II, 1869, pl. xliv.  
Type, *Anser rossii* CASSIN. (Cf. ELLIOT, Wild Fowl, Nov. 1898, 44.)

173a. **Branta bernicla glaucogastra** (BREHM.).

**White-bellied Brant.**

*Bernicla glaucogaster* C. L. BREHM, Isis, 1830, 996, nomen nudum; Handb. Vög. Deutschl. 1831, 849.

*Branta bernicla glaucogastra* COUES, Auk, XIV, April, 1897, 207.

[B 570, part, C 484, part, R 595, part, C 700, part.]

GEOG. DIST. — Extreme northern part of northern hemisphere, including Arctic America, migrating southward in winter. (Cf. COUES, Auk, XIV, April, 1897, 207.)

201c. **Ardea virescens anthonyi** MEARNS (cf. Eighth Suppl.).

This should stand as No. 201b.

[230.1.] **Gallinago major** (GMEL.).

**Greater Snipe.**

*Scolopax major* GMEL. S. N. I, ii, 1788, 661.

*Gallinago major* KOCH, Syst. Baier. Orn. 1816, 313.

[B —, C —, R —, C —.]

GEOG. DIST. — Europe, Asia, and Africa. Accidental in North America (Hudson Bay). (Cf. COUES, Auk, XIV, Apr. 1897, 209.)

SUBGENUS **HELODROMAS** KAUP (Check-List, 2d ed., p. 93).

This is raised to full generic rank. (Cf. COUES, Auk, XIV, April, 1897, 211.) Hence Nos. 256, 256a, and [257] will stand as follows:

256. **Helodromas solitarius** (WILS.).

*Tringa solitaria* WILS. Am. Orn. VII, 1813, 53, pl. lviii, fig. 3.

*Helodromas solitarius* SHARPE, Cat. Bds. B. M. XXIV, 1896, 444.

256a. **Helodromas solitarius cinnamomeus** (BREWST.).

*Totanus solitarius cinnamomeus* BREWST. Auk, VII, Oct.  
1890, 377.

*Helodromas solitarius cinnamomeus* A. O. U. COMM. MS.

[257.] **Helodromas ochropus** (LINN.).

**Green Sandpiper.**

*Tringa ocropus* (err. typ.) LINN. S. N. ed. 10, I, 1758, 149.

*Helodromas ochropus* KAUP, Skizz. Entw.-Gesch. Eur. Thierw.  
1829, 144.

GEOG. DIST. — Northern parts of the Old World. Accidental  
in North America (Hudson Bay and Nova Scotia). (Cf. COUES,  
Auk, XIV, Apr. 1897, 210.)

SUBGENUS **LOPHORTYX** BONAPARTE (Check-List, 2d ed.,  
p. 109). This becomes

GENUS **LOPHORTYX** BONAP.

Hence NOS. 294, 294a, 295 (cf. GRANT, Cat. Bds. B. M. XXII,  
1893, 399; COUES, Auk, XIV, Apr. 1897, 214; ELLIOT, Gall.  
Game Bds. 1897, 196) should stand as follows :

294. **Lophortyx californicus** (SHAW).

*Tetrao californicus* SHAW, Nat. Misc. IX, 1797, pl. cccxiv.

*Lophortyx californica* BONAP. Geog. and Comp. List, 1838, 42.

294a. **Lophortyx californicus vallicola** (RIDGW.).

*Callipepla californica vallicola* RIDGW. Pr. U. S. Nat. Mus.  
VIII, 1885, 355.

*Lophortyx californicus vallicola* ELLIOT, Gall. Game Bds. 1897,  
60.

295. **Lophortyx gambelii** GAMB.

*Lophortyx gambelii* GAMBEL (ex NUTTALL MS.) Pr. Ac.  
Nat. Sci. Phila. 1843, 260.



SUBGENUS **CANACHITES** STEJNEGER (Check-List, 2d ed., p. 111). This is raised to the rank of a full genus. (Cf. GRANT, Cat. Bds. B. M. XXII, 1893, 69; ELLIOT, Gall. Game Bds. N. Am. 1897, 195-197.) Hence Nos. 298 and 299 will stand as

298. **Canachites canadensis** (LINN.).

*Tetrao canadensis* LINN. S. N. ed. 10, I, 1758, 159.

*Canachites canadensis* GRANT, Cat. Bds. Br. M. XXII, 1893, 69.

299. **Canachites franklinii** (DOUGL.).

*Tetrao franklinii* DOUGL. Trans. Linn. Soc. XVI, iii, 1829, 139.

*Canachites franklinii* GRANT, Cat. Bds. B. M. XXII, 1893, 71.

GENUS **PEDIOCÆTES** BAIRD (Check-List, 2d ed., p. 116).  
This is corrected to

GENUS **PEDIOCETES** BAIRD.

*Pediocetes* BAIRD, Bds. N. Am. 1858, pp. xxi, xlv. Correction of *Pediocetes* in same work, p. 625. (Cf. GILL, Auk, XVI, Jan. 1899, 20.)

The same correction should be made in the generic name in the cases of Nos. 308, 308a, 308b. (Cf. ELLIOT, Gall. Game Bds. 1897, 125, 128, 134, 204; GILL, *l. c.* 23.)

GENUS **MELEAGRIS** LINN. (Check-List, 2d ed., p. 117).—  
The species and subspecies of this genus (cf. COUES, Auk, XIV, July, 1897, 272-275; ELLIOT, Gall. Game Bds. N. Am. 1897, 209-212) will stand as follows, numbers 310 and 310a being transposed from their former order to conform to the new arrangement of names:

310. **Meleagris gallopavo** LINN.

Mexican Turkey.

*Meleagris gallopavo* LINN. S. N. ed. 10. I. 1758, 156.

[B 458, C 379, R 470, C 553.]

GEOG. DIST. — Southwestern United States, from western Texas to Arizona: south over the tableland of Mexico.

This is the main basis of the Linnæan name.

310a. *Meleagris gallopavo fera* (VIEILL.).

Wild Turkey.

*Meleagris fera* VIEILL. Nouv. Dict. d'Hist. Nat. IX. 1817, 447.

*Meleagris gallopavo fera* COUES, Auk, XVI. Jan. 1899, 77.

[B 457, C 379a, R 470a, C 554.]

GEOG. DIST. — Eastern United States, from southwestern Pennsylvania to the Gulf Coast, and west to the Plains, along wooded river valleys; formerly north to southern Maine, southern Ontario, and up the Missouri River to North Dakota.

310b. *Meleagris gallopavo osceola* SCOTT. (Not changed.)

310c. *Meleagris gallopavo ellioti* SENNETT. This becomes  
*Meleagris gallopavo intermedia* SENNETT.

*Meleagris gallopavo intermedia* SENNETT, Bull. U. S. Geol. and Geog. Surv. Terr. V, No. 3, Nov. 1879, 428.

The name *intermedia*, proposed tentatively, has thirteen years priority over *ellioti*, both names being based on the same form. (Cf. COUES, Auk, XIV, 1897, 275.)

320a. *Columbigallina passerina pallescens* (BAIRD). The concordance (cf. COUES, Auk, XIV, April 1897, 215) should be corrected to read as follows:

[B 453, *part*, C 374a, R 465, *part*, C 548.]

326. *Catharista atrata* (BARTR.). As Bartram was not strictly binomial in his nomenclature, it is inconsistent with the A. O. U. Code to recognize any of his names. (Cf. COUES, Auk, XVI, Jan. 1899, 84.) Hence No. 326 becomes.

**Catharista urubu** (VIEILL.).

*Vultur urubu* VIEILL. Ois. Am. Sept. I, 1807, 53, pl. ii.

*Catharista urubu* VIEILL. Nouv. Dict. d'Hist. Nat. XII, 1817,  
401.

- 352a. **Haliaeetus leucocephalus alascanus** C. H. TOWN-  
SEND.

**Northern Bald Eagle.**

*Haliaeetus leucocephalus alascanus* C. H. TOWNSEND, Proc. Biol.  
Soc. Wash. XI, June, 1897, 145.

[B 41, 43, *part*, C 362, *part*, R 451, *part*, C 534, *part*.]

GEOG. DIST. — Northern North America. By the admission of  
No. 352a, *H. leucocephalus* becomes restricted to the southern  
form, confined chiefly to the United States.

- 369a. **Syrnium occidentale caurinum** MERRIAM.

**Northern Spotted Owl.**

*Syrnium occidentale caurinum* MERRIAM, Auk, XV, Jan. 1898,  
39.

[B —, C —, R —, C —.]

GEOG. DIST. — Coast region of Washington and British  
Columbia.

- 373b. **Megascops asio trichopsis** (WAGL.). This becomes  
**Megascops asio mcalli** (CASS.).

It will now stand as in the first edition of the Check-List  
(p. 201). The change was due to an erroneous identification of  
Wagler's *Scops trichopsis*, which has since been corrected.

- 373.1. **Megascops trichopsis** (WAGLER).

*Scops trichopsis* WAGLER, Isis, 1832, 276.

*Megascops trichopsis* KAUP, Tr. Z. S. Lond. IV, 1862, 227.

[B —, C —, R —, C —.]

GEOG. DIST. — Mexico, north to the Huachuca Mountains, Arizona.

This is *Megascops aspersus* BREWST., recently recorded by him as found in the Huachuca Mountains (*cf.* Auk, XV, April, 1898, 186).

375*e*. **Bubo virginianus pacificus** CASSIN (*cf.* Eighth Suppl.).

This should stand as No. 375*b*.

In the Order COCCYGES (Check-List, 2d ed., pp. 153-155) the following changes should be made :

(1) At the bottom of p. 153, a SUBFAMILY **NEOMORPHINÆ** should be introduced to include the genus *Geococcyx*. (2) The present "Subfamily COCCYGINÆ" should be carried forward to p. 154, and include the genus *Coccyzus* only. (3) The orthography should be changed to **COCCYZINÆ**. (4) At p. 155, insert SUBFAMILY **CUCULINÆ** to include the genus *Cuculus*. (*Cf.* COUES, Auk, XIV, Jan. 1897, 90.)

393*e*. **Dryobates villosus monticola** ANTHONY.

**Rocky Mountain Hairy Woodpecker.**

*Dryobates villosus monticola* ANTHONY, Auk, XV, Jan. 1898, 54 = *D. v. montanus* ANTHONY, Auk, XIII, Jan. 1896, 32, the name *montanus* being preoccupied by *Picus montanus* BREHM, which is a *Dryobates*.

[B 75, *part*, C 298*a*, *part*, R 360*b*, *part*, C 439, *part*.]

GEOG. DIST. — Rocky Mountains, from New Mexico to Montana, west to Utah (Uinta Mountains).

405. **Ceophlœus pileatus** (LINN.).

GEOG. DIST. — By admission of No. 405*a*, this becomes restricted to the wooded portions of the southern United States, from about North Carolina southward and westward.

405*a*. **Ceophlœus pileatus abieticola** BANGS.

**Northern Fileated Woodpecker.**

*Ceophlœus pileatus abieticola* BANGS, Auk, XV, Apr. 1898, 176.

[B 90, *part*, C 294, *part*, R 371, *part*, C 432, *part*.]

GEOG. DIST. — Heavily wooded regions of North America, from the southern Alleghanies northward.

412. **Colaptes auratus** (LINN.).

GEOG. DIST. — By the admission of No. 412*a* this becomes restricted to the South Atlantic and Gulf coast region.

412*a*. **Colaptes auratus luteus** BANGS.

Northern Flicker.

*Colaptes auratus luteus* BANGS, Auk, XV, Apr. 1898, 177.

[B 97, *part*, C 312, *part*, R 378, *part*, C 457, *part*.]

GEOG. DIST. — Eastern and northern North America, south to North Carolina, west to the eastern base of the Rocky Mountains. Occasional on the Pacific slope, from California northward.

422. **Cypseloides niger borealis** (KENNERLY).

Instead of the authority given for this name in the Eighth Supplement to the Check-List (Auk, XIV, Jan. 1897, 126), the following should be substituted:

*Cypseloides niger borealis* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27, 1880, 188. (Cf. OBERHOLSER, Auk, XVI, Jan. 1899, 78.)

435. **Atthis morcomi** RIDGW.

Morcom's Hummingbird.

*Atthis morcomi* RIDGW. Auk, XV, Oct. 1898, 325.

[B —, C —, R —, C —.]

GEOG. DIST. — Huachuca Mountains, Arizona.

In numeration this takes the place of No. 435, *Trochilus* (*Atthis*). *heloisa* (Less. & DeLatt.) of the first edition of the Check-List, which proved to be extra-limital, and to have been admitted to-

the Check-List on an early erroneous identification. (Cf. RIDGW. Auk, VIII, 1891, 115.)

439. **Amazilia cerviniventris** GOULD. This becomes  
**Amazilia cerviniventris chalconota** OBERH.

*Amazilia cerviniventris chalconota* OBERHOLSER, Auk, XV,  
Jan. 1898, 32.

460. **Contopus pertinax** CAB. This becomes  
**Contopus pertinax pallidiventris** CHAPMAN.

*Contopus pertinax pallidiventris* CHAPMAN, Auk, XIV, July,  
1897, 310.

GEOG. DIST. — Mountains of southern and central Arizona and northern Mexico. True *C. pertinax* is restricted to southern Mexico and Guatemala.

479. **Aphelocoma floridana** (BARTRAM). As Bartram was not a strict binomialist his names are not tenable, although in two instances they have been heretofore inadvertently used in the Check-List. Hence, taking the first tenable name (cf. COUES, Auk, XVI, Jan. 1899, 84), this species will stand as

**Aphelocoma cyanea** (VIEILL.).

*Garrulus cyaneus* VIEILL. Nouv. Dict. d'Hist. Nat. XII, 1817,  
476.

*Aphelocoma cyaneus* COUES, Auk, XVI, Jan., 1899, 84.

- 488a. **Corvus americanus floridanus** BAIRD. The name *floridanus* being preoccupied by *Corvus floridanus* BONAP., 1826, for the Florida Jay (cf. COUES, Auk, XVI, Jan., 1899, 84), No. 488a, should stand as

**Corvus americanus pascuus** COUES.

*Corvus americanus pascuus* COUES, Auk, XVI, Jan. 1899, 84.

- 501a. ***Sturnella magna mexicana*** (SCL.). This becomes  
***Sturnella magna hoopesi*** STONE.

**Rio Grande Meadowlark.**

*Sturnella magna hoopesi* STONE, Pr. Acad. Nat. Sci. Phila.  
1897, 149.

[B —, C —, R 263a, C 321.]

GEOG. DIST. — Valley of the Lower Rio Grande, Texas, south  
into eastern Mexico.

515. ***Pinicola enucleator*** (LINN.). This becomes  
***Pinicola enucleator canadensis*** (CAB.).

**Pine Grosbeak.**

*Pinicola canadensis* CAB. Mus. Hein. I, Aug. 1851, 167.

*Pinicola enucleator*  $\beta$  *canadensis* RIDGW. Bull. Nutt. Orn. Club,  
April, 1878, 66.

[B 304, *part*, C 137, *part*, R 166, *part*, C 190, *part*.]

GEOG. DIST. — Northern and northeastern North America,  
from New England and Minnesota northward; further south in  
winter.

- 515a. ***Pinicola enucleator montana*** RIDGW.

**Rocky Mountain Pine Grosbeak.**

*Pinicola enucleator montana* RIDGW. Auk, XV, Oct. 1898, 319.

[B 304, *part*, C 137, *part*, R 166, *part*, C 190, *part*.]

GEOG. DIST. — Rocky Mountains, breeding from Montana and  
Idaho to New Mexico.

- 515b. ***Pinicola enucleator californica*** PRICE.

**California Pine Grosbeak.**

*Pinicola enucleator californica* PRICE, Auk, XIV, April, 1897,  
182.

[B —, C 137, *part*, R —, C 190, *part*.]

GEOG. DIST. — The higher parts of the Sierra Nevada, central California.

515c. ***Pinicola enucleator alascensis*** RIDGW.

**Alaskan Pine Grosbeak.**

*Pinicola enucleator alascensis* RIDGW. Auk, XV, Oct. 1898,  
319.

[B —, C —, R —, C —.]

GEOG. DIST. — Northwestern North America, including wooded portions of Alaska, except Kadiak and the southern coast district; south in winter to Montana, eastern British Columbia, etc.

515d. ***Pinicola enucleator flammula*** (HOMEYER).

**Kadiak Pine Grosbeak.**

*Pinicola flammula* HOMEYER, Journ. f. Orn. 1880, 156.

*Pinicola enucleator flammula* RIDGW. Auk, XV, Oct. 1898, 320.

[B —, C —, R —, C 190, part.]

GEOG. DIST. — Kadiak to Sitka, Alaska.

519c. ***Carpodacus mexicanus clementis*** (MEARNS).

**San Clemente House Finch.**

*Carpodacus clementis* MEARNS, Auk, XV, July, 1898, 258.

*Carpodacus mexicanus clementis* A. O. U. COMM. MS.

[B —, C —, R —, C —.]

GEOG. DIST. — Santa Barbara Islands, California.

520.1. ***Carpodacus mcgregori*** ANTHONY.

**McGregor's House Finch.**

*Carpodacus mcgregori* ANTHONY, Auk, XIV, April, 1897, 165.

[B —, C —, R —, C —.]

GEOG. DIST. — San Benito Island, Lower California.



GENUS **SPINUS** KOCH (Check-List, 2d ed., p. 218). This, in part, becomes

GENUS **ASTRAGALINUS** CAB.

*Astragalinus* CAB. Mus. Hein. I, 1851, 159. Type, *Fringilla tristis* LINN. (Cf. RIDGW. Auk, XV, Jan., 1899, 79.)

Hence Nos. 529 to 532 will stand as follows:

529. **Spinus tristis** (LINN.). This becomes

**Astragalinus tristis** (LINN.).

**American Goldfinch.**

*Fringilla tristis* LINN. Syst. Nat. ed. 10, I, 1758, 181.

*Astragalinus tristis* CABANIS, Mus. Hein. I, July, 1851, 159.

[B 313, part, C 149, part, R 181, part, C 213, part.]

GEOG. DIST. — Temperate North America, east of the Rocky Mountains.

529a. **Spinus tristis pallidus** MEARN'S. This becomes

**Astragalinus tristis pallidus** (MEARN'S).

**Pale Goldfinch.**

*Spinus tristis pallidus* MEARN'S, Auk, VII, July, 1890, 244.

*Astragalinus tristis pallidus* RIDGW. Auk, XVI, Jan. 1899, 79.

[B 313, part, C 149, part, R 181, part, C 213, part.]

GEOG. DIST. — Great Basin region, from Arizona northward, and south into Mexico.

529b. **Astragalinus tristis salicamans** (GRINNELL).

**Willow Goldfinch.**

*Spinus tristis salicamans* GRINNELL, Auk, XIV, Oct. 1897, 397.

*Astragalinus tristis salicamans* RIDGW. Auk, XVI, Jan. 1899, 79.

[B 313, *part*, C 149, *part*, R 181, *part*, C 213, *part*.]

GEOG. DIST. — Pacific Coast region, from Washington to southern California.

530. **Astragalinus psaltria** (SAY).

*Fringilla psaltria* SAY, Long's Exped. II, 1823, 40.

*Astragalinus psaltria* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27, 1880, 177.

530a. **Astragalinus psaltria arizonæ** (COUES).

*Chrysomitris mexicana* var. *arizonæ* COUES, Pr. Ac. Nat. Sci. Phila. 1866, 82.

*Astragalinus psaltria arizonæ* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27, 1880, 177.

530b. **Astragalinus psaltria mexicanus** (SWAINS.).

*Carduelis mexicana* SWAINS. Phil. Mag. I, 1827, 435.

*Astragalinus psaltria mexicanus* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27, 1880, 177.

531. **Astragalinus lawrencei** (CASS.).

*Carduelis lawrencei* CASS. Pr. Ac. Nat. Sci. Phila. 1851, 105, pl. v.

*Astragalinus lawrencei* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27, 1880, 177.

GENUS **PLECTROPHENAX** STEJNEGER (Check-List, 2d ed., p. 220). This becomes

GENUS **PASSERINA** VIEILL.

*Passerina* VIEILL. Analyse, 1816, 30. Type, by elimination, *Emberiza nivalis* LINN. (Cf. RIDGW. Auk, XV, Oct. 1898, 324.)

Hence Nos. 534, 534a, 535 will stand as follows:

534. **Passerina nivalis** (LINN.).

*Emberiza nivalis* LINN. S. N. ed. 10, I, 1758, 176.

*Passerina nivalis* VIEILL. Faune Franç. 1820, 86.

534a. ***Passerina nivalis townsendi*** (RIDGW.).

*Plectrophenax nivalis townsendi* RIDGW. Man. N. Am. Bds.  
1887, 403.

*Passerina nivalis townsendi* RIDGW. Auk, XV, Oct. 1898, 324.

535. ***Passerina hyperborea*** (RIDGW.).

*Plectrophenax hyperboreus* RIDGW. Pr. U. S. Nat. Mus. VII,  
June 11, 1884, 68.

*Passerina hyperborea* RIDGW. Auk, XV, Oct. 1898, 324.

3 6a. ***Calcarius lapponicus alascensis*** RIDGW.

**Alaskan Longspur.**

*Calcarius lapponicus alascensis* RIDGW. Auk, XV, Oct. 1898,  
320.

[B 326, *part*, C 153, *part*, R 187, *part*, C 220, *part*.]

GEOG. DIST. — The whole of Alaska, including the Prybilof and Aleutian Islands, Unalaska, and the Shumagins; east to Fort Simpson; south in winter to Nevada, eastern Oregon, Colorado, western Kansas, etc.

GENUS **POOCÆTES** BAIRD (Check-List, 2d ed., p. 222).

This is corrected to

GENUS **POECETES** BAIRD.

*Poecetes* BAIRD, Bds. N. Am. 1858, pp. xx, xxix. Correction of *Poocates* in same work, p. 447. (Cf. GILL, Auk, XVI, Jan. 1899, 20.)

The same correction should be made in the generic name of Nos. 540, 540a, 540b. (Cf. GILL, *l. c.* 23.)

549a. ***Ammodramus caudacutus nelsoni*** ALLEN. This becomes

549.1. ***Ammodramus nelsoni*** (ALLEN).

*Ammodramus caudacutus nelsoni* ALLEN, Pr. Bost. Soc. Nat. Hist. XVII, March, 1875, 293.

*Ammodramus nelsoni* NORTON, Pr. Portland Soc. Nat. Hist. II, March 15, 1897, 102.

549b. ***Ammodramus caudacutus subvirgatus*** DWIGHT.

This becomes

549.1a. ***Ammodramus nelsoni subvirgatus*** (DWIGHT).

*Ammodramus caudacutus subvirgatus* DWIGHT, Auk, IV, July, 1887, 233.

*Ammodramus nelsoni subvirgatus* NORTON, Pr. Portland Soc. Nat. Hist. II, March 15, 1897, 102.

Changed on the ground that *subvirgatus* is a subspecies of *nelsoni* instead of *caudacutus*. (Cf. NORTON, *l. c.*)

550c. ***Ammodramus maritimus macgillivrayi*** (AUD.). This becomes

***Ammodramus maritimus fisheri*** CHAPMAN.

Louisiana Seaside Sparrow.

*Ammodramus maritimus fisheri* CHAPMAN, Auk, XVI, Jan. 1899, 10.

[B —, C 165, *part*, R 202, *part*, C 238, *part*.]

GEOG. DIST. — Coast of Louisiana; coast of Texas in migration.

550d. ***Ammodramus maritimus macgillivrayi*** (AUD.).

**Macgillivray's Seaside Sparrow.**

*Fringilla macgillivrayi* AUD. Orn. Biog. II, 1834, 285; IV, 1838, 394, pl. ccclv.

*Ammodramus maritimus macgillivrayi* CHAPMAN, Auk, XVI, Jan. 1899, 5. (Not *A. m. macgillivrayi* RIDGW. Man. N. A. Bds. 2d. ed. 1896, App. 602 = *A. m. fisheri* CHAPMAN.)

[B —, C 165, *part*, R 202, *part*, C 238, *part*.]

GEOG. DIST. — Coast of South Carolina and Georgia.

567.1. ***Junco montanus*** RIDGW.

**Montana Junco.**

*Junco montanus* RIDGW. Auk, XV, Oct. 1898, 321.

[B —, C —, R —, C —.]

GEOG. DIST. — Northwestern Montana and northern Idaho, north to Alberta; in winter south to northern Mexico, Texas, etc., and east, irregularly or casually, to the Mississippi Valley, and even to Maryland.

573a. ***Amphispiza bilineata deserticola*** RIDGW.

**Desert Sparrow.**

*Amphispiza bilineata deserticola* RIDGW. Auk, XV, July, 1898, 229. (Separates published May 13, 1898.)

[B 355, *part*, C 172, *part*, R 224, *part*, C 258, *part*.]

OG. DIST. — Arid plains, from western Texas to coast of southern California, north to northern Nevada and Utah, south into Chihuahua and Sonora; Lower California?

GENUS **PEUCÆA** AUD. (Check-List, 2d ed., p. 238). This in part becomes

GENUS **AIMOPHILA** SWAINS.

*Aimophila* SWAINSON, Class. Bds. II, 1837, 287. Type, *Pipilo rufescens* SWAINS.

This will include Nos. 579 to 580b, heretofore placed in the genus *Peucaea* (cf. RIDGW. Auk, XVI, Jan. 1899, 80). Numbers 579 to 580b will hence stand as follows, leaving in *Peucaea* only Nos. 575 to 578 :

579. ***Aimophila carpalis*** (COUES).

*Peucea carpalis* COUES, Am. Nat. VII, June, 1873, 322.

*Aimophila carpalis* RIDGW. Auk, XVI, Jan. 1899, 81.

580. ***Aimophila ruficeps*** (CASS.).

*Ammodramus ruficeps* CASS. Pr. Ac. Nat. Sci. Phila. Oct. 1852, 184.

*Aimophila ruficeps* RIDGW. Auk, XVI, Jan. 1899, 81.

580a. ***Peucea ruficeps boucardi*** (SCI.). This becomes

***Aimophila ruficeps scottii*** (SENNETT).

*Peucea ruficeps scottii* SENNETT, Auk, V, Jan. 1888, 42.

*Aimophila ruficeps scottii* RIDGW. Auk, XVI, Jan. 1899, 81.

580b. ***Aimophila ruficeps eremæca*** (BROWN).

*Peucea ruficeps eremæca* BROWN, Bull. Nutt. Orn. Club, VII, Jan. 1882, 26.

*Aimophila ruficeps eremæca* RIDGW. Auk, XVI, Jan. 1899, 81.

580c. ***Aimophila ruficeps sororia*** RIDGW.

Laguna Sparrow.

*Aimophila ruficeps sororia* RIDGW. Auk, XV, July, 1898, 226.

[B 372, *part*, C 171, *part*, R 230. *part*, C 255, *part*.]

GEOG. DIST. — Mountains of southern Lower California.

588c. ***Pipilo maculatus clementæ*** (GRINNELL).

San Clemente Towhee.

*Pipilo clementæ* GRINNELL, Auk, XIV, July, 1897, 294.

*Pipilo maculatus clementæ* A. O. U. COMM. MS.

[B —, C —, R —, C —.]

GEOG. DIST. — San Clemente Island, California.

In the genera ***Pipilo*** and ***Oreospiza*** (Check-List 2d ed., pp. 246-248, and Eighth Suppl., Auk, XIV, Jan. 1897, p. 129) .the

numeration should be changed (*cf.* COUES, Auk, Apr. 1897, 221) as follows:

Cancel No. 590, and carry the present No. 590, *Oreospiza chlorura*, forward to follow No. 592, to stand as

592.1. **Oreospiza chlorura** (AUD.).

597a. **Guiraca caerulea eurhyncha** COUES. This becomes  
**Guiraca caerulea lazula** (LESSON).

*Pitylus lazulus* LESSON, Rev. Zool. V, 1842, 174.

*Guiraca caerulea lazula* RIDGW. Auk, XV, Oct. 1898, 322.

GENUS **PASSERINA** VIEILL. (Check-List, 2d ed., p. 251).

This name being now used for what has been called *Plectrophenax*, is changed to

GENUS **CYANOSPIZA** BAIRD. (*Cf.* RIDGW. Auk, XV, Oct. 1898, 323.)

*Cyanospiza* BAIRD, Bds. N. Am. 1858, 500. Type, *Tanagra cyanea* LINN.

Hence Nos. 598 to 601 should stand as follows:

598. **Cyanospiza cyanea** (LINN.).

*Tanagra cyanea* LINN. S. N. ed. 12, I, 1766, 315.

*Cyanospiza cyanea* BAIRD, Bds. N. Am. 1858, 505.

599. **Cyanospiza amœna** (SAY).

*Emberiza amœna* SAY, Long's Exped. II, 1823, 47.

*Cyanospiza amœna* BAIRD, Bds. N. Am. 1858, 504.

600. **Cyanospiza versicolor** (BONAP.).

*Spiza versicolor* BONAP. P. Z. S. 1837 (June, 1838), 120.

*Cyanospiza versicolor* BAIRD, Bds. N. Am. 1858, 503.

600a. **Cyanospiza versicolor pulchra** (RIDGW.).

*Passerina versicolor pulchra* RIDGW. Man. N. Am. Bds. 1887,  
448.

*Cyanospiza versicolor pulchra* RIDGW. Auk, XV, Oct. 1898,  
324.

601. **Cyanospiza ciris** (LINN.).

*Emberiza ciris* LINN. S. N. ed. 10, 1758, 179.

*Cyanospiza ciris* BAIRD, Bds. N. Am. 1858, 503.

GENUS **CHELIDON** FORSTER (Check-List, 2d. ed., p. 258).

This becomes

GENUS **HIRUNDO** LINN.

*Hirundo* LINN. Syst. Nat. ed. 10, I, 1758, 191. Type, as  
fixed by SCHAEFFER (Elem. Orn. 1774, pl. xl). *Hirundo*  
*rustica* LINN. (Cf. COUES, Auk, XV, July, 1898, 271.)

Hence No. 613 becomes

13. **Hirundo erythrogaster** BODD.

*Hirundo erythrogaster* BODD. Tabl. P. F. 1783, 45.

622c. **Lanius ludovicianus anthonyi** MEARNS.

Island Shrike.

*Lanius ludovicianus anthonyi* MEARNS, Auk, XV, July, 1898,  
261.

[B —, C —, R —, C —.]

GEOG. DIST. — Santa Barbara Islands, California.

680. **Geothlypis macgillivrayi** (AUD.). This becomes

**Geothlypis tolmiei** (TOWNS.).

*Sylvia tolmiei* J. K. TOWNSEND, Narr. April, 1839, 343.

*Geothlypis tolmiei* STONE, Auk, XVI, Jan. 1899, 82.

The name *tolmiei* has priority over *macgillivrayi*. (Cf. STONE, *l. c.*)



GENUS **SYLVANIA** NUTTALL (Check-List, 2d ed, p. 285).  
This becomes

GENUS **WILSONIA** BONAP.

*Wilsonia* BONAP. Geog. and Comp. List, 1838, 23. Type,  
*Sylvia mitrata* LATHAM = *Motacilla mitrata* GMEL.

*Sylvania* is a strict synonym of *Setophaga* SWAINS. (cf. COUES,  
Auk, XIV, 1897, 223). Hence Nos. 684 to 686 will stand  
as follows:

684. ***Wilsonia mitrata*** (GMEL.).

*Motacilla mitrata* GMEL. S. N. I. ii, 1788, 977.

*Wilsonia mitrata* BON. Geog. and Comp. List, 1838, 23.

685. ***Wilsonia pusilla*** (WILS.).

*Muscicapa pusilla* WILS. Am. Orn. III, 1811, 103, pl. xxvi,  
fig. 4.

*Wilsonia pusilla* BON. Geog. and Comp. List, 1838, 23.

685a. ***Wilsonia pusilla pileolata*** (PALL.).

*Motacilla pileolata* PALL. Zool. Rosso-As. I, 1811, 497.

*Wilsonia pusilla pileolata* COUES, Bull. Nutt. Orn. Club, V,  
April, 1880, 95.

686. ***Wilsonia canadensis*** (LINN.).

*Muscicapa canadensis* LINN. S. N. ed. 12, I, 1766, 327.

*Wilsonia canadensis* COUES, Bull. Nutt. Orn. Club, V, April,  
1880, 95.

710a. ***Harporhynchus redivivus pasadenensis*** GRINNELL.

Pasadena Thrasher.

*Harporhynchus redivivus pasadenensis* GRINNELL, Auk, XV,  
July, 1898, 237.

[B 256, *part*, C 13, *part*, R 16, *part*, C 23, *part*.]

GEOG. DIST. — Southern California.

711a. **Harporhynchus lecontei arenicola** ANTHONY.

**Desert Thrasher.**

*Harporhynchus lecontei arenicola* ANTHONY, Auk, XIV, Apr. 1897, 167.

[B 257, *part*, C 13a, *part*, R 16a, *part*, C 24, *part*.]

GEOG. DIST. — Lower California.

[717.] **Catherpes mexicanus** (SWAINS.). This becomes

717. **Catherpes mexicanus albifrons** (GIRAUD).

*Certhia albifrons* GIRAUD, Sixteen Sp. Texas Bds. 1841, pl. xviii.

*Catherpes mexicanus albifrons* NELSON, Auk, XV, Apr. 1889, 160.

GEOG. DIST. — Lower Rio Grande of Texas, and the States of Nuevo Leon and Tamaulipas, Mexico.

SUBGENUS **THRYOMANES** SCLATER. This is raised to a full genus (*cf.* OBERHOLSER, Pr. U. S. Nat. Mus. XXI, Nov. 1898, 421). Hence Nos. 719, 719a, 719b, 719.1, 720, will stand as follows:

719. **Thryomanes bewickii** (AUD.).

*Troglodytes bewickii* AUD. Orn. Biog. I, 1831, 96, pl. xviii.

*Thryomanes bewickii* RIDGW. Bull. Nutt. Orn. Club, II, July, 1877, 60.

719a. **Thryomanes bewickii spilurus** (VIG.).

*Troglodytes spilurus* VIG. Zool. Voy. Blossom, 1839, 18, pl. iv, fig. 1.

*Thryomanes bewickii spilurus* RIDGW. Essex. Inst. V, Oct. 1874, 170.

719b. **Thryomanes bewickii leucogaster** (BAIRD).

*Thryothorus bewickii* var. *leucogaster* BAIRD, Rev. Am. Bds.  
Aug. 1864, 127.

*Thryomanes bewicki* var. *leucogaster* RIDGW. Pr. U. S. Nat.  
Mus. I, Oct. 9, 1878, 121.

719.1 **Thryomanes leucophrys** (ANTHONY).

*Thryothorus leucophrys* ANTHONY, Auk, XII, Jan. 1895, 52.

*Thryomanes leucophrys* A. O. U. COMM. MS.

720. **Thryomanes brevicauda** RIDGW.

*Thryomanes brevicauda* RIDGW. Bull. U. S. Geol. and Geog.  
Surv. Terr. II, No. 2, April 1, 1876, 186.

SUBGENUS **ANORTHURA** RENNIE. This is raised to a full  
genus (*cf.* OBERHOLSER, Pr. U. S. Nat. Mus. XXI, No. 1153,  
Nov. 19, 1898, 421). Hence Nos. 722, 722a, 723, will  
stand as follows:

722. **Anorthura hiemalis** (VIEILL.).

*Troglodytes hiemalis* VIEILL. Nouv. Dict. d'Hist. Nat. XXXIV,  
1819, 514.

*Anorthura hyemalis*. COUES & PRENTISS, Smiths. Rep. for  
1861 (1862), 410.

722a. **Anorthura hiemalis pacifica** (BAIRD).

*Troglodytes hiemalis* var. *pacificus* BAIRD, Rev. Am. Bds. I,  
Sept. 1864, 145.

*Anorthura hiemalis pacifica* OBERHOLSER, Pr. U. S. Nat. Mus.  
XXI, No. 1153, Nov. 19, 1898, 421.

723. **Anorthura alasensis** (BAIRD).

*Troglodytes alasensis* BAIRD, Trans. Chic. Ac. Sci. I, 1869,  
315, pl. xxx, fig. 3.

*Anorthura alasensis* COUES, Key, 1872, 87.

725c. **Cistothorus palustris plesius** OBERHOLSER.

Western Marsh Wren.

*Cistothorus palustris plesius* OBERHOLSER, Auk, XIV, Apr. 1897, 188.

[B 268, *part*, C 51, *part*, R 67a, *part*, C 80, *part*.]

GEOG. DIST.—Western United States, except the Pacific Coast; north to British Columbia and Alberta, east to the Rocky Mountains and Texas, south into Mexico.

The Tulé Wren (No. 725a, *Cistothorus palustris paludicola*) thus becomes restricted to the Pacific Coast region.

726. ***Certhia familiaris americana*** (BONAP.). This becomes ***Certhia familiaris fusca*** (BARTON).

*Certhia fusca* BARTON, Fragments Nat. Hist. Penn., 1799, 11.

*Certhia familiaris fusca* COUES, Bds. N. W. 1874, 230.

737. ***Parus meridionalis*** SCL. *Parus meridionalis* SCLATER, 1856, is preoccupied by *Parus meridionalis* LILLJEBORG, 1852. Hence this becomes

***Parus sclateri*** KLEINS.

*Parus sclateri* KLEINSCHMIDT, Journ. f. Orn. 1897, 92, 133.

746a. ***Auriparus flaviceps lamprocephalus*** OBERHOLSER.

*Auriparus flaviceps lamprocephalus* OBERHOLSER, Auk, XIV, Oct. 1897, 391.

[B 300, *part*, C 37, *part*, R 50, *part*, C 56 *part*.]

GEOG. DIST.—Lower California.

SUBGENUS **HYLOCICHLA** BAIRD (Check-List, 2d ed., p. 316). This is raised to a full genus (*cf.* OBERHOLSER, Auk, XV, Oct. 1898, 304). Hence Nos. 755 to 759b will stand as follows:

755. ***Hylocichla mustelina*** (GMEL.).

*Turdus mustelinus* GMEL. S. N. I, ii, 1788, 817.

*Hylocichla mustelina* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27, 1880, 166.

756. **Hylocichla fuscescens** (STEPH.).

*Turdus fuscescens* STEPH. Gen. Zool. X. i. 1817, 182.

*Hylocichla fuscescens* RIDGW. Pr. U. S. Nat. Mus. III,  
Aug. 27, 1880, 166.

756a. **Hylocichla fuscescens salicicola** RIDGW.

*Hylocichla fuscescens salicicola* RIDGW. Pr. U. S. Nat. Mus.  
IV, Apr. 6, 1882, 374.

757. **Hylocichla aliciae** (BAIRD).

*Turdus aliciae* BAIRD, Bds. N. Am. 1858, 217.

*Hylocichla aliciae* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27,  
1880, 166.

757a. **Hylocichla aliciae bicknelli** RIDGW.

*Hylocichla aliciae bicknelli* RIDGW. Pr. U. S. Nat. Mus. IV,  
Apr. 6, 1882, 377.

758. **Hylocichla ustulata** (NUTT.).

*Turdus ustulatus* NUTT. Man. Orn. Land Bds. ed. 2, 1840,  
830 (*cestulatus*, err. typ. p. 400).

*Hylocichla ustulata* RIDGW. Pr. U. S. Nat. Mus. III, Aug.  
27, 1880, 166.

758a. **Hylocichla ustulata swainsoni** (CAB.).

*Turdus swainsoni* CAB. Faun. Per. 1845-46, 187.

*Hylocichla ustulata swainsoni* RIDGW. Pr. U. S. Nat. Mus.  
III, Aug. 27, 1880, 166.

758b. **Hylocichla ustulata oedica** OBERH.

*Hylocichla ustulata oedica* OBERHOLSER, Auk, XVI, Jan. 1899,  
23.

[B 153, part, C 5, part, R 41, part, C 13, part.]

GEOG. DIST. — California, excepting the northern coast; north

in the interior to southern Oregon; south, in winter, to Arizona and northern Mexico.

759. **Hylocichla aonalaschkæ** (GMEL.).

*Turdus aonalaschkæ* GMEL. S. N. I, ii, 1788, 808.

*Hylocichla unalashkæ* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27, 1880, 166.

759a. **Hylocichla aonalaschkæ auduboni** (BAIRD).

*Turdus auduboni* BAIRD, Rev. Am. Bds. June, 1864, 16.

*Hylocichla unalashkæ audubonii* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27, 1880, 166.

759b. **Hylocichla aonalaschkæ pallasii** (CAB.).

*Turdus pallasii* CAB. Wieg. Archiv, 1847, i, 205.

*Hylocichla unalashkæ pallasii* RIDGW. Pr. U. S. Nat. Mus. III, Aug. 27, 1880, 166.

## HYPOTHETICAL LIST.

11.2. **Totanus totanus** (LINN.).

**Common Redshank.**

*Scolopax totanus* LINN. S. N. ed. 10, 1758, 145.

*Totanus totanus* COUES, Auk, XIV, April, 1897, 212.

[B —, C —, R —, C —.]

GEOG. DIST. — Europe, Asia, and Africa. Accidental in North America (Hudson Bay)? (Cf. COUES, Auk, XIV, April, 1897, 211.)

## II.—PROPOSED CHANGES IN NOMENCLATURE NOT ACCEPTED.

76. **Sterna anæthetus** vs. *S. anæsthesa*. Cf. COUES, Auk, XIV, July, 1897, 314.

The evidence that *anathetus* is a "misprint" is not satisfactory.

88. **Puffinus borealis** CORY vs. *P. kuhlii* (BON.). Cf. SALVIN, Cat. Bds. B. M. XXV, 1896, 426.

The proposed change is undesirable, in view of fairly satisfactory evidence that the two names represent distinct species.

- 106.2. **Oceanodroma cryptoleucura** RIDGW. vs. *Procellaria castro* HARCOURT. Cf. GRANT, Ibis, Apr. 1898, 314.

It is probable that Harcourt's name *castro* was applied to a species distinct from *O. cryptoleucura* RIDGW.

151. **Clangula clangula americana** (BONAP.) vs. *Clangula clangula*. Cf. ELLIOT, Wild Fowl, 1898, 178, 289.

There is no apparent reason for the proposed change.

- SUBFAMILY **PLECTROPTERINÆ**. Cf. SALVADORI, Cat. Bds. B. M. XXVII, 1895, 45; ELLIOT, Wild Fowl, 1898, 273.

The introduction into the Check-List of this heterogeneous Old World group for the genus *Aix* BOIE is considered undesirable, even though the genus *Aix* may not be strictly referable to *Anatinae*.

- GENUS **AIX** (Check-List, 2d ed., p. 52). vs. *Æx*. Cf. B. O. U. Check-List Br. Bds. 1883, 123; ELLIOT, Wild Fowl, 1898, 273.

- GENUS **Harelda** (Eighth Suppl. Check-List, in Auk, XIV, 1897, 124) vs. *Havelda*. Cf. ELLIOT, Wild Fowl, 1898, 290.

These proposed changes are rejected as being contrary to Canon XL of the A. O. U. Code.

- GENUS **OLOR** (Check-List, 2d ed., p. 65) vs. *Cygnus*. Cf. ELLIOT, Wild Fowl, 1898, 265.

No reason is evident for adopting the proposed change.

GENUS **LIMNOGERANUS** SHARPE, Bull. Br. Orn. Club, No. VII, March 25, 1893, p. xxxvii; Cat. Bds. B. M. XXIII, 1894, 259. Type, *Grus americanus* (LINN.).

There seems no sufficient reason for recognizing *Limnogeranus*, even as a subgenus, for *Grus americanus* (LINN.).

236. **Tringa couesi** vs. *T. maritimus couesi*. Cf. ELLIOT, N. Am. Shore-Birds, 1895, 70, 235.

237. **Tringa ptilocnemis** vs. *T. maritimus ptilocnemis*. Cf. ELLIOT, N. Am. Shore-Birds, 1895, 73, 235.

[253.] **Totanus nebularius** (GUNN.). vs. *T. littoreus*. Cf. ELLIOT, N. Am. Shore-Birds, 1895, 120, 239.

303. **Lagopus welchi** vs. *L. rupestris welchi*. Cf. ELLIOT, Gall. Game Birds N. Am. 1897, 157, 207.

305a. **Tympanuchus americanus attwateri** vs. *T. attwateri* Cf. ELLIOT, Gall. Game Birds N. Am. 1897, 122.

The Committee does not see any reason to change its former ruling in any of the preceding five cases.

328. **Elanus leucurus** (VIEILL.) vs. *Elanus glaucus* (BARTON). Cf. COUES, Auk, XIV, April 1897, 216.

Rejected on the ground that *Falco glaucus* BARTON is indeterminate, but more probably referable to *Circus hudsonius* (LINN.) ♂ ad., than to *Elanus leucurus* (VIEILL.)

542a. **Ammodramus sandwichensis savanna** WILS.) vs. *A. s. wilsonianus* COUES. Cf. COUES, Auk, XIV, Jan. 1897, 93).

*Savanna* and *savannarum* are considered as sufficiently distinct names.

550b. **Ammodramus maritimus sennetti** ALLEN vs. *A. sennetti*. Cf. CHAPMAN, Auk, XVI, Jan. 1899, 3.



Its close relation to the *maritimus* group seems best expressed by the trinomial designation.

GENUS **CLIVICOLA** FORSTER (Check-List, 2d. ed., p. 259)  
vs. *Riparia* FORSTER. Cf. COUES, Auk, XV, July, 1898,  
271.

Although *Riparia* stands first in the same work, *Clivicola* is retained on the ground that it was adopted in preference to *Riparia* by the 'first reviser.' Cf. STEJNEGER, Pr. U. S. Nat. Mus. V, 1882, 32.

### III.—SPECIES AND SUBSPECIES NOT ACCEPTED.

*Oidemia carbo* (PALLAS). Cf. SALVADORI, Cat. Bds. B. M.  
XXVII, 1895, 412.

The supposed Alaskan specimen not satisfactorily identified.

*Halizetus leucocephalus washingtoni* (AUD.). Cf. BANGS,  
Auk, XV, April, 1898, 174.

It is deemed inadvisable to admit an intermediate form between the northern and southern Bald Eagles (cf. *antea*, p. 109), and especially undesirable to resuscitate the name *washingtoni*.

*Speotyto cunicularia obscura* STEPHENS, Auk, XII, Oct. 1898,  
372.

The supposed characters prove not to have been well founded.  
Cf. MCGREGOR, Auk, XV, April, 1898, 187.

*Tyrannus tyrannus vexator* BANGS, Auk, XV, April, 1898,  
178.

*Myiarchus crinitus boreus* BANGS, Auk, XV, April, 1898, 179.

*Sitta pusilla caniceps* BANGS, Auk, XV, April, 1898, 180.

Based mainly on differences due to season.

*Parus (Lophophanes) bicolor floridanus* BANGS, Auk, XV,  
April, 1898, 180.

*Hylocichla ustulata alme* OBERHOLSER, Auk, XV, Oct. 1898,  
304.

*Sialia sialis grata* BANGS, Auk, XV, April, 1898, 182

In the preceding six cases the alleged differences prove too slight to warrant recognition in nomenclature.

#### IV.—REFERRED TO SUBCOMMITTEES FOR INVESTIGATION.

*Referred to Messrs. Ridgway and Brewster.*

*Amphispiza belli nevadensis* vs. *A. nevadensis*. Cf. GRINNELL, Auk, Jan. 1898, 59; FISHER, *ibid.* Apr. 1898, 190.

*Amphispiza belli clementeae* RIDGWAY, Auk, XV, July, 1898, 230.

*Thryothorus cerroensis* ANTHONY, Auk, XIV, Apr. 1897, 166.

*Thryomanes bewickii cryptus* OBERHOLSER, Pr. U. S. Nat. Mus. XXI, No. 1153, Nov. 1898, 425.

*Thryomanes bewickii eremophilus* OBERHOLSER, *l. c.* 427.

*Thryomanes bewickii charienturus* OBERHOLSER, *l. c.* 435.

*Thryomanes bewickii drymæcus* OBERHOLSER, *l. c.* 437.

*Thryomanes bewickii calophonus* OBERHOLSER, *l. c.* 440.

*Thryomanes bewickii nesophilus* OBERHOLSER, *l. c.* 442.

*Referred to Mr. Ridgway.*

*Fulmarus glacialis columba* ANTHONY, Auk, XII, 1895, 372.

*Fulmarus glacialis minor* vs. *F. glacialis*. Cf. SALVIN, Cat. Bds. B. M. XXV, 1896, 426.

*Fulmarus glacialis rodgersi* vs. *F. rodgersi*. Cf. SALVIN, *ibid.* 426.

*Puffinus stricklandi* RIDGW. vs. *P. griseus* (GMEL.). Cf. SALVIN, *ibid.* 386.

*Referred to Mr. Brewster.*

*Empidonax insulicola* OBERHOLSER, Auk, XIV, July, 1897, 300.

*Regulus calendula grinnelli* WM. PALMER, Auk, XIV, Oct. 1897, 399.

The following cases were also referred for further investigation.

*Referred to Mr. Frank M. Chapman.*

159. **Somateria mollissima borealis** BREHM., vs. *S. mollissima*. Cf. ELLIOT, Wild Fowl, 1898, 294.

*Referred to Dr. J. Dwight, Jr.*

- 277a. **~~Ægialitis~~ meloda circumcincta** RIDGW. vs. *Æ. meloda* (ORD). Cf. SHARPE, Cat. Bds. B. M. XXIV, 1896, 294.

*Referred to Dr. Chas. W. Richmond.*

- Bubo virginianus pallescens* STONE, Am. Nat. March, 1897, 236.

V.—DEFERRED ON ACCOUNT OF LACK OF  
MATERIAL.

*Ammodramus halophilus* MCGREGOR, Auk, XV, July, 1898, 265.

*Lanius ludovicianus migrans* WM. PALMER, Auk, XV, July, 1898, 248.

*Salpinctes obsoletus pulverius* GRINNELL, Auk, XV, July, 1898, 238.



LEUCOURIA PHALERATA BANGS.

NATURAL SIZE.

A. J. F. V. 1886

# THE AUK:

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No. 1.

## THE HUMMINGBIRDS OF THE SANTA MARTA REGION OF COLOMBIA.

BY EDWARD M. SALTER.

*Illustrated.*

EVER since Messrs. Salvin and Godman published the results of their study of the collections of birds made by F. S. Steud. in the Sierra Nevada de Santa Marta, the eyes of many American ornithologists and mammalogists have been turned to the study of that "isolated mass of mountains, whose snowy peaks are visible from far out on the Caribbean Sea, to whose striking features is the scenery of the northern coast of South America."

In December, 1897, Mr. Wilmer A. Brown, an experienced and skilful field collector, started on an extremely long trip in this region in the interests of the Orange Collection. In the summer of 1898 his trip was broken off by his having to return to Boston on account of sickness in his family, but he has now back again at work in the Santa Marta region.

Mr. Brown is peculiarly adapted by nature for outdoor work in the tropics and throughout his trip he has remained healthy and never had a sick day.

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<sup>1</sup> Salvin and Godman, *Ibid.*, 1876.

THE JUNE 1908



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#### THE HUMMINGBIRDS OF THE SANTA MARTA REGION OF COLOMBIA.

BY OUTRAM BANGS.

#### *Plate II.*

EVER since Messrs. Salvin and Godman published the results of their study of the collections of birds made by F. Simons in the Sierra Nevada de Santa Marta, the eyes of many American ornithologists and mammalogists have been turned in the direction of that "isolated mass of mountains, whose snowy peaks, visible from far out on the Caribbean Sea, form so striking a feature in the scenery of the northern coast of South America."<sup>1</sup>

In December, 1897, Mr. Wilmot W. Brown, Jr., an experienced and skilful field collector, started for an indefinitely long trip in this region in the interests of the Bangs Collection. In the summer of 1898 his trip was broken up by his having to return to Boston on account of sickness in his family, but he is now back again at work in the Santa Marta region.

Mr. Brown is peculiarly adapted by nature for out-door work in the tropics and throughout his trip in this unhealthy region never had a sick day.

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<sup>1</sup> Salvin and Godman, *Ibis*, 1879, p. 196.

For the first three months he worked in the vicinity of Santa Marta, collecting in the hot country and on some of the smaller mountains up to an elevation of 6000 feet. In March he left Santa Marta and travelled along the coast in an Indian dugout to Rio Hacha, from where roads lead in several directions into the higher mountains. Here he hired a pack mule, and taking along as a companion a shipwrecked sailor, started on foot up one of the mountain trails. After an arduous journey of several days he arrived at the Indian village of Pueblo Viejo, at about 8000 feet altitude. This was his first collecting ground in the higher sierra. Later he visited Macotama, 8000 feet, San Miguel, 7500 feet, San Francisco, 6000 feet, and Palomina, 5000 feet, making collections at all these places, but on this trip got no higher than 8000 feet.

Travelling in the Sierra Nevada is at best slow and laborious and in the rainy season is harder still. Mr. Brown, in order to go as light as possible, carried no tent with him, and cut down his outfit in other ways till much too small for his comfort. Night after night he slept out with no shelter, wet to the skin by the terrific thunder storms that rage in these mountains nearly continuously throughout the spring. His one pair of shoes was soon worn out by the rough travelling, and for the greater part of the trip he went barefoot, his feet and legs exposed to the attacks of wood ticks and numerous insects, with every now and then a narrow escape from a fer-de-lance or a bushmaster.

Many of the trails are fairly good, being used by the Indians, but occasionally Mr. Brown had to cut his way through the forest, and the mountain streams, swollen by the continuous rains to raging torrents, were often very hard to ford. Under these conditions Mr. Brown made a very creditable collection, sending in over a thousand bird skins and about three hundred and fifty mammals as the results of his six and a half months work.

The Sierra Nevada de Santa Marta, with its highest peaks rising to 17,500 feet above sea level, forms an immense isolated mountain mass cut off from the other mountain ranges of northern South America by deep tropical valleys. In the hot, dry lowlands about Santa Marta the forest is stunted and brushy, but as one ascends the mountains the growth becomes more



luxuriant and the forest heavier. In places there are open grassy savannas, but most of the peculiar birds of the region dwell in the elevated mountain forest, cut off from their nearest relations in the elevated regions about Bogota and in the mountains of Venezuela by the intervening hot countries.

Many of the birds living in the Santa Marta mountains appear to be peculiar to them; a few species, however, occur both here and in the mountains about Merida, Venezuela, though absent in the intervening lowlands. Two good examples of such are the Parrot, *Pionus sordidus* (Linn.) and the Green Toucan, *Aulacorhamphus calorhynchus* Gould. On the other hand, we find in these two mountain districts instances of closely related representative species, as with the Flycatching Warblers—the golden-crowned *Setophaga flavivertex* Salv. being known only from the Santa Marta mountains, and the white-fronted *Setophaga albifrons* Scl. & Salv. inhabiting, so far as known, only the Merida region.

Compared with the birds of the Bogota region the difference is even greater, as most of the strictly mountain birds of the two regions prove at least subspecifically distinct.

Apart from the local forms there are of course a great many wide-ranging tropical species found in the Sierra Nevada, and a few Mexican and Central American birds, such as *Muscivora mexicana* Scl., push their ranges south to these mountains.

Before Simons made his famous collection several new species had been described from the Sierra Nevada de Santa Marta, or the hot countries about Santa Marta, generally from single specimens sent to England by orchid hunters or travellers. The more striking amongst these are the lovely little Hummingbird, the type of its genus, *Anthocephala floriceps* (Gould), the Motmot, *Momotus subrufescens* Scl., and the Oven-bird, *Furnarius agnatus* Scl. & Salv. Simons's collection added about nine more (not all described in the original reports on this collection). Since then one very distinct Flycatching Warbler, *Setophaga flavivertex* Salv., has been described, from two specimens contained in a small collection of birds made in these mountains. Mr. Brown's work, up to date, has yielded twenty-three additional new forms, most of them probably peculiar to the Santa Marta region.

These have been described by me in three papers in the Proceedings of the Biological Society of Washington, Vol. XII. (See Auk, XV, p. 339, and XVI, p. 90.)

Most interesting among the local birds of the Sierra Nevada de Santa Marta are the Hummingbirds. No less than six species peculiar to these mountains are now known. Most of these appear to be rare and local, and to breed high up in the mountains, migrating in winter down to lower altitudes. Mr. Brown took, in all, examples of seventeen species of Hummingbirds, and although he discovered one remarkable new species, secured examples of but two of the five local species previously known.

The species supposed to be peculiar to the Santa Marta Mountains are as follows:

*Panychlora russata* Salv. & Godm. Originally described from ten specimens collected by Simons in the Sierra Nevada de Santa Marta. Mr. Brown took six adults, at San Miguel and Palomina in May and June, and two females at Santa Marta in February, 1898. These last two I was unable to identify at the time and never recorded until now.

*Anthocephala floriceps* (Gould). Described from a specimen taken at San Antonio by an orchid collector. Simons took one at San José, and Brown one at Pueblo Viejo. These three specimens are I believe all that are known.

Another species of this genus, *A. berlepschi* Salv., is found in the Bogota region, differing from *A. floriceps* by having white instead of brown tips to the rectrices.

*Oxygogon cyanolæmus* Salv. & Godm. Described from five skins taken by Simons at 11,000 feet altitude in the Sierra. Not taken by Brown.

*Rhamphomicron dorsale* Salv. & Godm. Described from two specimens of Simons's collecting. Not taken by Brown.

*Campylopterus phainopeplus* Salv. and Godm. Described from Simons's ten specimens. Mr. Brown did not get this Hummer.

*Leucuria phalerata* Bangs. Described from one specimen taken by W. W. Brown, Jr., June 17, 1898, at Macotama. The type and only specimen is here figured (Plate II).

Of the capture of this beautiful Hummer Mr. Brown wrote me: "After a difficult march through the forest, the way barred by

swollen torrents and fallen trees, I arrived at the Argoneous town of San Miguel. Here Hummingbirds of many species were seen, and on that day [June 17] I collected the only specimen of this beautiful white-tailed species that I have seen in these mountains. I first detected it hovering above an orchid. Its flight was rapid and strong, and it uttered a twittering note as it darted from flower to flower in search of its food, its gorgeous plumage shining in the morning sun. As I only watched this little gem a few minutes before shooting it, I detected nothing in its habits to distinguish it from the numerous other Hummingbirds that were about me."

Another Hummingbird that may prove to be peculiar to the region is the *Metallura* that occurs in the Santa Marta Mountains. I recorded the pair collected by Mr. Brown, the male at Palomina and the female at San Miguel, as *M. smaragdinicollis*. To this species, also, Messrs. Salvin and Godman referred the one skin in Simons's collection, though with some misgiving. It would be very strange indeed if the Santa Marta bird is really *M. smaragdinicollis*, but my two specimens are so like skins from Bolivia and Peru that without much more material I cannot feel justified in separating it. There are slight differences, however, that may prove to be constant. The tail of the male is rather more of an auricula purple than in *M. smaragdinicollis*, and the rectrices seem to be wider; the luminous throat patch is also a darker green. The female is a paler buff below, much less spotted with green. These slight differences may or may not prove constant. On the other hand, *M. smaragdinicollis* is only found in the mountains of Bolivia and of Peru south of the equator; while in the mountains of northern Peru, Ecuador, Colombia, and Venezuela another species, *M. tyrianthina*, very different from it, occurs. Therefore, if *M. smaragdinicollis* really occurs in the Santa Marta mountains, it is wholly cut off from the main stock of its species by a wide area tenanted by a very different form. That such should be the case certainly seems improbable.

## THE NOCTURNAL FLIGHT OF MIGRATING BIRDS.

BY O. G. LIBBY.

IT HAS long been a well-known fact of bird life that, during the migrating season, most, if not all, of the movement north or south takes place in the night. This ensures protection from enemies and opportunity for securing food during periods of rest. Under the cover of darkness, the bird passes safely and secretly through the air. During the day he can search for necessary food and by evening he is again ready to continue his flight.

But the very conditions that shield the migrating birds from danger, also preclude any very satisfactory study of their movements. We know, to be sure, that during the fall migrations, most of the large flocks will be found in the early morning on the north side of groves or belts of timber, and in the spring they are to be found on the south side. We know, too, from observations covering a long period of time that birds are seen in the morning which were not in the neighborhood the day before. And most bird lovers know how distinctly the calls of the migrating birds can be heard during the nights of middle September. Still it must be confessed that in proportion to the magnitude of this movement in the bird world and the importance of the interests at stake, economical as well as biological, our actual knowledge of the migration is exceedingly meager.

The writer has recently made two sets of observations upon the nocturnal flight of birds, an account of which may prove interesting to the general reader. The place of observation first selected was a small elevation west of the city of Madison, Wisconsin, with three lakes in the immediate vicinity. The evening chosen (September 14, 1896) was chilly and a raw southeast wind was blowing, though there were no clouds during most of the time. A total of three thousand eight hundred bird calls were recorded, an average of twelve per minute. This rate, however, varied greatly, sometimes running as high as two or three per second and again falling to about the same number per minute. The largest number of calls counted for any hour was nine

hundred and thirty-six, between two and three o'clock, though nearly that number were noted for two other hours. Nor were the calls at all confined to the few hours during which they were recorded. They began much earlier in the evening and when the observations ceased, at a little after three, they were heard steadily on long after that hour, with the regularity of the ticking of a clock. Manifestly it is quite impossible to estimate the number of birds represented by these calls. The equation contains so many unknown quantities that no satisfactory mathematical solution is to be expected with our present knowledge of the subject. But it may be very safely assumed that the number of calls must be multiplied many times to express even approximately the size of the flocks that were heard to pass during the course of the observation.

Nothing but an actual experience of a similar kind can at all adequately convey the impression produced by such observations. The air seemed at times fairly alive with invisible birds as the calls rang out, now sharply and near at hand, and now faintly and far away. Repeatedly it seemed as if some of the nearer ones must be visible, so vividly was their presence felt as they passed overhead. All varieties of bird calls came sounding out of the darkness that evening. The harsh squawk of a water bird would be followed by the musical *chink* of the Bobolink. Almost human many of them seemed, too, and it was not difficult to imagine that they expressed a whole range of emotions from anxiety and fear up to good-fellowship and joy. The fine shrill notes of the smaller Sparrows or Warblers were heard only close at hand but the louder ones came from all along the line, east and west. More than once an entire flock, distinct by the unity of their calls, came into range and passed out of hearing, keeping up their regular formation with the precision of a swiftly moving but orderly body of horsemen. The great space of air above swarmed with life. Singly or in groups, large and small, or more seldom in a great throng the hurrying myriads pressed southward. It was a marvel and a mystery enacted under the cover of night, and of which only fugitive tidings reached the listeners below.

The next station chosen was the Washburn Observatory, over-

looking the largest of the lakes in the vicinity of the city. The writer was assisted by Winslow Mallery, to whose patience and accuracy is due not a little of the success attending these initial observations. It was proposed to watch the moon through a small six-inch telescope, and to count the birds as they passed across its surface in the southward flight. For convenience in keeping the record, the whole time of observation was divided into periods of fifteen minutes each and the count for each period kept distinct from the rest. The result exceeded all expectations and well repaid the inconvenience attending such experimental work. During the three nights of observation, Sept. 11, 12 and 13, 1897, a total of five hundred and eighty-three birds were counted, and forty-five during one fifteen-minute period. On the evening of the 12th, three hundred and fifty-eight were counted, the largest number for any one period being thirty-five. The number of birds seen during different hours of the night was very unequal. The maximum number of three per minute was reached at 10.30, and it diminished rapidly to a little more than one third of this number at midnight. From this time the number declined, with three considerable upward variations, to very near the zero point. As to the direction of flight very great diversity was also observed. The predominant direction up to ten o'clock was very nearly south, and but comparatively few birds varied from this. The diversity of direction, however, continued to increase till it reached its maximum between twelve and two o'clock. At this time the eight principal points of the compass were represented by numbers varying from three to twenty-eight; two-thirds of the whole number still maintaining a southerly direction.

The observations as to the number of birds and the direction of their flight tell substantially the same story. The first considerable falling off in the number of birds came at 11.15, and up to 10.45 they were observed to fly largely in one direction, not half that number for any period taking any other direction. Thus the intensity of the migratory movement, measured by the number of birds and the regular direction of their flight, is seen to be at its height early in the evening. The diminishing numbers and increasing variety in direction indicate plainly enough that during the time of observation other things besides migration

were taking place later in the night. This latter conclusion is borne out by the larger number of calls heard toward morning, which may be explained as arising from the effort to reassemble the scattered members of the migrating companies. As a general conclusion to be drawn from the whole observation, it would seem that the great mass of migrants thrusts itself rapidly forward for the first two or three hours in one main direction and that separate flocks maintained this movement many hours later. And that after the first advance was completed, the remainder of the night was spent in more miscellaneous movements, having for their purpose, partly at least, the collecting of the widely separated fragments of the different groups, and the selecting of suitable feeding grounds.

This fugitive glimpse into a new phase of bird-life reveals many things besides the two chief points already noted. When one recalls the relatively small size of the moon's surface compared to the length of its path from east to west, within the range of vision, some idea of the whole number of birds passing this line may be obtained. Prof. A. S. Flint of the Washburn Observatory estimated that about nine thousand per hour passed during the entire period of observation, or a total of one hundred and sixty-eight thousand. And when the length of this line is compared to the breadth of the whole country over which birds move, the total number of migrating birds for a given area may be roughly estimated. This states in numerical fashion the meaning of the semi-annual migration of our birds. It falls as far short of expressing what the movement really is as does a census report of revealing the daily life of a city like New York or Chicago.

The movement of the birds across the field of vision irresistibly suggested the rapid, undulatory motion of animalculæ under high magnifying power. The time of passage varied from one-tenth to one-half a second. In most cases the movement of the wings was plainly visible, though occasionally a bird passed across like a flash. One bird hung for several seconds on the edge of the field of vision, poising itself by rapid motions of the wings. Several times a bird was seen to change its direction of flight completely, usually going off at right angles. Very rarely

were the birds numerous enough to be seen two at a time, though this happened once during each evening. Not infrequently currents of air seemed to aid or retard their flight. One bird was seen to move backwards across the field as a slowly flying bird is sometimes seen to do from the window of a swiftly moving train. Many of them sailed instead of flying across, occasionally flapping their wings to steady themselves.

On account of the short time each bird was in sight, and the difficulty of estimating their relative distances, not many of them could be identified. More Swamp Blackbirds were identified than any other, and next to them were the Meadowlarks, of which several flocks were observed. Besides these there were the Crow Blackbird, Sparrow Hawk, Yellow Hammer, and one species of Duck. Many of the birds, from their size and flight, must have been Warblers, but it was impossible to further identify them. A number of birds resembling Gulls were observed in large flocks, but nothing could be determined as to the species. The single Sparrow Hawk seen was moving leisurely along in no particular direction except that he seemed to be following the main stream of birds. His hesitating appearance showed how well concealed were his intended victims, though he had sufficient intimation of their presence to keep him on the track. A more thorough acquaintance with the appearance of the birds in flight would have added greatly to the value of the observations.

How the birds are guided in their nocturnal flight is perhaps the most puzzling question which rises in the mind of the observer. There are two possible solutions of this problem. They may be guided by the stars, or by the contour of the country, the lakes and river valleys. Certain it is that cloudy, and especially foggy nights are not favorable for flight. Birds lose their way and wander from their course as seamen do when there is neither sun nor star to guide them. It may be accepted as settled that birds are not possessed of an infallible instinct that guides them, otherwise they need not be disturbed by a fog. The results of the observations just cited show the same thing. That birds do wander from their course is seen from the great variety of directions taken by them during the night. Certainly not all in a given flock fly in one unvarying direction. Individ-



uals get separated or lost and fly in the widely divergent tracks already referred to. The sudden changes in direction that were observed in certain cases may tell the same story. These birds had perhaps lost their way, and hearing the calls of their comrades, wheeled about to join them. The not uncommon sight of birds of one species in a flock of a wholly different kind also shows how frequently they get lost during their migrations.

The turning of the telescope upon this comparatively unknown field suggests endless possibilities. It affords us a means of surveying a plexus of bird life marvelously intricate and full of discoveries. There is revealed to us a new side of the wonderfully human life of the bird. We can sit quietly by while the march of feathered legions goes on,—unsuspected spectators of one of the great events in the world of flying things. The dangers and difficulties attending such an exodus are very real. Along the flanks of every company or hovering in the rear are the birds of prey watching to pick off every careless straggler. The earliest comers are exposed to all the risks of sudden changes in the weather, and great storms like that of 1895, which destroyed so many Bluebirds. The strain of such a journey is not inconsiderable, and it effectually weeds out all but the most hardy individuals; the young, the sick and the old being the first to fall by the way. Twice each year the migratory birds attempt the marvelous feat and perform it with such silence and celerity that it goes on almost unnoticed. But if each bird in his nocturnal passage were as luminous as a meteor, how the heavens would blaze during the migrating season, and how wonderful would seem their journeyings to and fro. Not the less wonderful do they seem to the true bird-lover, though he can catch only stray glimpses of those numberless hosts that move along their airy highways with each recurring season.

The fewness of such detailed observations as are here briefly sketched leads to the conclusion that their value is not appreciated as it should be. Those who study birds for the pure love of it may find here a delightful glimpse into a fresh field. A telescope is not a necessity, good field glasses will show all but the smallest birds. The larger the number of observers the more accurate will be the general conclusions arrived at in the end.

Each may do something of value while studying in a new way the familiar problems of bird life. The writer hopes simply to encourage others to work along a line which has been of so much interest to him and which seems so full of new material.

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## A HISTORICAL NOTICE OF ROSS'S ROSY GULL (*RHODOSTETHIA ROSEA*).<sup>1</sup>

BY JOHN MURDOCH.

As I am one of the very few naturalists who ever had the good fortune to collect more than a few straggling individuals of this beautiful and still rare Gull, or, indeed, to see the bird in anything like large numbers, I have always felt a great interest in the species. The bird, indeed, should be of interest to all naturalists, for although it has been known to science for seventy-five years, and although I have seen literally thousands of them on the wing, there are still not more than 110 specimens known to be in existence in collections, and most of these have been procured since 1880. The great difference between the actual numbers of the bird and its representation in collections is plainly due to some remarkable peculiarity in its habits and geographical distribution. I hope to show what this peculiarity is in the present paper, in which I have tried to present all that we know of the history of the species.

The bird, of course, is well known to ornithologists, but as all my hearers are not ornithologists, it will be well to describe it briefly before going on to give an account of its discovery. It is a graceful little Gull about the size of a Pigeon, and not unlike the little Bonaparte's Gull which is so common along our coast. It is, however, strikingly different from all other Gulls in two important particulars. In the first place, it is the only Gull

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<sup>1</sup> Read before Section F, American Association for the Advancement of Science, August 28, 1898.

known with a wedge-shaped or cuneate tail. With the exception of the genus *Xema*, which has a forked tail, all other Gulls have the tail feathers of equal length, but Ross's Gull has the middle pair of feathers longer than the rest, with the lateral feathers graduated in length towards the middle. Hence it has sometimes been called the Cuneate-tailed Gull. This one character serves to distinguish the species infallibly. The other striking characteristic, though a less constant one, is the color of the underparts. Many of the smaller Gulls and at least one species of Tern have the white of the breast and belly tinged during the breeding season with a delicate rosy pink or peach blossom color, which is very evanescent and soon disappears when the bird is skinned. In the fully developed Rosy Gull, the rose color spreads over all the underparts and is so deep as to be almost a salmon color. This color fades after death, when exposed to the light, but a particularly brilliant specimen in our collection which had been kept carefully in the dark, showed no perceptible change in a year. On the other hand, Gätke reports that some pink feathers of his Heligoland specimen, which he kept shut up in an envelope, faded as badly as the mounted bird.<sup>1</sup> For the rest, the 'mantle,' as the back and wings are called in a Gull, are of the well known 'gull blue,' and the head and tail are white. The adult in summer has a narrow black collar round the neck, which is wanting in the winter plumage. The young birds in the autumn have the back and the wing-coverts more or less mottled with dark feathers, black feathers in the wing, and a black bar across the tip of the tail. Several stages of immature plumage have been described, and it is quite probable that, as is the case with many other Gulls, the bird needs several years to reach the full adult plumage. It is, however, impossible to establish this at present, as the birds have been observed in large numbers only in the autumn. The amount of rose color varies a great deal. Two thirds of the young birds that I have examined were quite white, and more were very rosy, while one of the adults had all the white parts except the tail deeply suffused. I have never had the good fortune to see an adult in summer — indeed, very

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<sup>1</sup> Heligoland as an Ornithological Observatory, p. 558. Edinburgh, 1895.

few have been taken — but from the published descriptions, the rose color must be as deep as in our brightest specimen.

The bird was first taken by the famous Arctic explorer Sir James Clark Ross, who at the time was one of the junior officers in Captain Parry's second expedition in search of the Northwest Passage. The first mention of the bird is in Parry's narrative of the voyage, as follows: "Mr. Ross had procured a specimen of a Gull having a black ring round its neck, and which, in its present plumage, we could not find described. This bird was alone when it was killed, but flying at no great distance from a flock of Tern, which latter it somewhat resembles in size as well as in its red legs; but is on closer inspection easily distinguished by its beak and tail, as well as by a beautiful tint of a most delicate rose-color on its breast" (p. 449). It was shot at Alagnak, Melville Peninsula, on June 23, 1823. At last accounts, this specimen was in the Derby Museum at Liverpool. Four days later, on June 27, one of the other officers shot another specimen at the same place. This was given to the University Museum at Edinburgh.

Dr. (afterwards Sir John) Richardson, well known as the companion of Sir John Franklin in his earlier explorations, was commissioned to describe the zoölogical collections made by Captain Parry, and accordingly among other things, published a description of this new Gull in the 'Appendix' to Captain Parry's journal of a second voyage (1825), giving it the name of *Larus rossii*. This description was based upon the specimen killed by Ross, which would therefore be the type, were it not that by an unfortunate chance, the species had already received the specific name by which we are obliged to recognize it.

The circumstances were as follows: While Dr. Richardson was still at work on Captain Parry's collection, the well known ornithologist Macgillivray, who was at the Edinburgh Museum, had occasion to prepare a revision of the genus *Larus*, which he published in the Memoirs of the Wernerian Society (Vol. V, 1824) under the title 'Description, Characters, and Synonyms of the Different Species of the Genus *Larus*, with critical and explanatory Remarks.' In this paper (p. 249) occurs the following passage: "With regard to the tail there are two remarkable . . .

exceptions; the one...in the *Larus sabini*...; the other *L. roseus*\*, in which it is subcuneate, the middle feathers being considerably longer, the rest graduated." Referring to the name *L. roseus*, a footnote reads, "The name given *pro tempore* to a new species of Gull, discovered by the last Arctic Expedition, but which is to receive its proper designation from Dr. Richardson." It is perfectly evident that Macgillivray had not the least intention of giving a permanent name to the species, and that he merely wished to have a convenient designation for the bird under discussion. Nevertheless, under the strict rule of zoölogical nomenclature, he had 'published' the species, for he had published a binomial name with an accompanying diagnosis, and nothing that he or any one else might do could ever change it.

It is said that this premature naming of the species caused considerable bad blood at the time, and indeed Richardson refers to an alleged previous description which he was unable to find, in a somewhat offended tone, but he certainly had no good ground for offense, as Macgillivray's intentions were plainly all right. It was merely a case of playing with edged tools. When Macgillivray himself separated the species generically from *Larus* under its present name of *Rhodostethia*, he adopted the specific name of *rossii* (Manual of British Ornithology, Pt. II, p. 252, 1842), which of course was illegitimate.

The name as now adopted, *Rhodostethia rosea*, was first used (without explanation) by Bruch in the 'Journal für Ornithologie,' 1853 (p. 106). Bonaparte had used the name *Rossia* for the genus in 1838 (Comparative List of Birds of Europe and America, p. 62), but the name was accompanied by no description, and had moreover been used by Owen in 1835 for a genus of Mollusca.

So much for the nomenclature of the species.

Meanwhile, there were no more records of the capture of the bird, although it was the time of the great Arctic expeditions, culminating in the great Franklin Search, when hundreds of men were pressing into the Arctic regions. It was seen during Parry's expedition over the ice northward from Spitsbergen in lat. 82° north (J. C. Ross, Appendix to Parry's 4th Voyage, p. 195,

1828), and "Mr. Abernethy saw one fly over the ships in Felix Harbour," Boothia Felix, during Ross's second voyage (J. C. Ross 'Appendix' to the narrative of the second voyage. . . . By Sir John Ross, p. xxxvi, London, 1835). Reinhardt admitted the species to his list of 'Birds observed in Greenland,' because he had been "told by a trustworthy person that Holböll formerly possessed an example, probably obtained in Greenland during the latter years of his life" (Ibis, 1861, p. 18). In fact, up to 1875, when Mr. Saunders made his census of the specimens known to exist in museums, the only ones whose capture had been previously recorded were the two original specimens, one taken at Heligoland by Gätke on February 5, 1858 (See Heligoland as an Ornithological Observatory, p. 558) and one shot by Müller on Suderøe, one of the Faeroe Islands, on February 1, 1863 (Naturhistorisk Tidsskrift, ser. 3, vol. III, p. 8). Nevertheless, Saunders was able to record seven other specimens in collections, four from Disco, Greenland, two said to have come from Kamchatka, and one, an adult in winter plumage, said to have been killed in Yorkshire. The Tegethoff Expedition obtained a single specimen in 1873, while the ship was beset off Franz Josef Land (Payer, New Lands within the Arctic Circle, p. 191, N. Y., 1877), and the Museum at Copenhagen received another specimen, probably from Greenland. Two more solitary specimens were collected in 1879, one in immature plumage by the naturalists of the 'Vega' Expedition, at Pitlekaj, their winter quarters on the northeast coast of Siberia, on July 1, and the other, a very young one, on October 10, by Mr. Nelson, at St. Michael's, Alaska. The latter was the only specimen seen by Mr. Nelson during a residence of several years at St. Michael's, and it was a strange bird to the Eskimos.

Such was the state of our knowledge of the species, when the Point Barrow expedition, in which I was one of the naturalists, sailed from San Francisco in 1881. Fifteen specimens were known to have been taken since 1823 — we were then ignorant of what the naturalist of the 'Jeannette' had seen and collected — from widely scattered localities, all indicating a completely Arctic distribution. The bird was still one of the great prizes for an ornithologist, and there was no indication that we were more

likely to find it than, for instance, the English Arctic expedition of 1875. At all events, we were entirely unprepared for what really happened.

We reached our station late in the season, and at the beginning experienced much bad weather. For several weeks, all our energies were devoted to building our house and getting our supplies under cover, and it was the end of September before there came a little lull in the work so that I was able to get out for a day's shooting. It was on September 28 that I shot my first specimen. I well remember the day, beautifully clear and cold with a fresh northeast wind. The ground was frozen hard and a light fall of snow lay upon the earth. As I walked up the beach, several flocks of small graceful Gulls passed me, moving towards the northeast, but out of gunshot. As they whirled in the sunshine, I thought I noticed that some of them were rosy underneath. Could they be the famous Rosy Gulls? As may be fancied, I grew a little excited. The question was soon settled, for a flock at last came within range, and a fortunate shot brought down a bird which proved to be a fine adult in winter plumage. I came home well pleased with myself, as may be supposed, but unfortunately my skinning tools and arsenic were not yet accessible, so I laid the bird carefully away on a barrel in the cold store tent to be attended to at the first opportunity. But I had failed to reckon with the ubiquitous Eskimo dogs, and when I came to look for my precious bird, it had vanished!

For nearly a month, the Gulls continued to pass in large numbers, moving generally towards the northeast, but nearly all were out of reach over the water. Besides, we were so busy getting settled and beginning the meteorological and magnetic work for the year, that no time was allowed us for collecting. We ornithologists consoled ourselves with the belief that we should get plenty of them in the spring, but to our great surprise, we did not see a single one, either in spring or summer, and the same was true of the season of 1883. Plainly, therefore, they did not breed anywhere close to Point Barrow.

Early in September, however, they began to appear again, a few stragglers at first, out among the loose pack ice, and on Sep-

tember 21, they were again abundant. They appeared in large, loose flocks, coming in from the sea and from the southwest, and all apparently flying to the northeast against the cold, fresh breeze. Most of the flocks whirled in at the mouth of the lagoon close to the station, and circled round the house with a peculiarly graceful wavering flight, and many were shot almost from the doorstep. For a week, as long as the east wind blew, they continued plenty, all following the same track. Then none were seen until October 6, when there began another large flight, which lasted for several days. On October 9, in particular, there was a continuous stream of them all day long, moving up the shore at a short distance from the beach, and occasionally swinging in over the land. We saw none coming back.

We were better prepared for them than we had been the preceding autumn, but though all the guns turned out, the number secured was exceedingly small compared with the number seen. The shooting was by no means easy, since for one flock that passed within gunshot, twenty were out of range, and the flocks were so loosely scattered that it was almost impossible to secure more than one bird at a shot.

However, we secured enough of them to satisfy any but the most avaricious. When we came back to Washington, Dr. Coues half seriously took me to task "for vulgarizing this beautiful bird," and Professor Baird expressly forbade our making public the number collected, for fear he should be overwhelmed with requests for gifts or exchanges. To my great chagrin, I had only a small share in this great shooting, for at the time the Gulls were most abundant, I was laid up with a severe cold which prevented me from doing any outdoor work, or indeed from skinning the birds as they were brought in. This, however, did no serious harm, because the birds were put away,—out of reach of the dogs, this time—is our new block house, where they soon froze solid, and staid frozen until I was ready to attend to them. Every night, I used to pick out a batch of about half a dozen, all that I wanted for a morning's work, and put them on the rack behind the stove in the quarters, where we used to dry our stockings, and the next morning they would be nicely thawed out and ready to skin. Still, Arctic taxidermy has its



drawbacks. The carpenter's shop, where I had to work, would not warm up in spite of the little Sibley stove in it, and by the time I had a skin turned inside out and the skull cleaned, the skin would be so stiff from freezing that it would not turn back, and I used to have to warm it at the stove before I could finish the skin. Besides the metal top, which our commanding officer thought was such a neat and cleanly thing to put on my skinning table, used to become uncomfortably numbing to the fingers.

One would naturally suppose that some enterprising collector would have visited Point Barrow after we left, and that a constant supply of these birds would have reached museums, but as a matter of fact, I have seen no published record of any specimens from that region later than our own. I have been informed, however, that there are one or two skins in San Francisco, which I have reason to believe were smuggled in by an unscrupulous member of our party, who appropriated birds which he had shot, though of course, everything collected by any member of the expedition was Government property.

Nor have any large numbers of the species since been collected anywhere else, but specimens continue to come in as stragglers just as they did before our great 'strike.' Before our collections reached the museum, there had already been received the three battered skins that Mr. Newcomb, the naturalist of the 'Jeannette,' so pluckily brought out in that desperate retreat across the ice, after the wreck, when they abandoned everything that they could possibly dispense with. They had secured seven birds, but brought out only the three showing the most interesting stages of plumage. These birds were all taken while the ship was beset north of Wrangel Island, in October, 1879, and the latter part of June, 1880. During the march across the ice, they saw several, early in July, 1881, just north of Bennett Island (De Long, *Voyage of the Jeannette, passim*).

No more captures were reported until Dr. Alexander Bunge, a Russian naturalist, secured two in the Lena Delta, on July 8, 1883 (*Mélanges biologiques*, Vol. XII, pt. 1, p. 57). The Yakuts told him that it was very rare. The next bird was taken at Disco on June 15, 1885. It was said to have been shot at the nest, and an egg was sent with it by the collector. (Reported

by Seebohm, P. Z. S., 1886, p. 82.) There appears to have been more than a little doubt about this egg, though the announcement that was made so confidently has never been definitely contradicted. At all events, Mr. Saunders, in a recent volume of the British Museum Catalogue of Birds, still calls the incubation unknown. This specimen, I take it, is the one in the Seebohm collection in the British Museum.

In the meantime, though much Arctic work had been done, notably by Jackson and the various Peary expeditions, nothing more was heard of the species until the return of Nansen and the 'Fram,' when we received a really important contribution to our knowledge of the biography of the bird.

As Nansen and Johansen were approaching Hvidtenland in 1895 on their return from their northward dash, they first saw these birds on July 15, and as they drew in towards the land, the Gulls were seen in constantly increasing numbers, though never in anything like the flocks that we saw at Point Barrow. After passing Hvidtenland, which is in lat.  $81^{\circ} 38'$  N. and long.  $63^{\circ}$  E., no more birds were seen, nor was the species found by the Jackson-Harmsworth expedition on Franz Josef Land.

Nansen very justly inferred that the birds which he saw had bred on Hvidtenland, and he is undoubtedly the first naturalist to discover a breeding ground of the species. During the previous August, eight young birds had been killed alongside the 'Fram,' then somewhere between the New Siberian Islands and Franz Josef Land.

The last specimen recorded was shot on Bering Island, one of the Russian Seal Islands in Bering Sea, on December 10, 1895. Governor Grebnitski gave the bird to Dr. Stejneger of the National Museum, when the latter visited the island in 1897. The specimen is now in the National Museum. (Stejneger, Auk, vol. XV, p. 183, 1898.)

It will be seen that we still have much to learn about the habits of the species. I think, however, that certain conclusions can be drawn from the observations that I have just reviewed. We may disregard the occurrence of the bird in the Faeroe Islands, England, Heligoland, St. Michael's and Bering Island. These records can teach us nothing, for the birds were mere stragglers,

driven out of their regular course by stress of weather, or something of the sort. Somewhat more significant is the record from Disco, where the bird appears to occur with a certain regularity.

The home of the bird is plainly in some high northern latitude, and is evidently not to be looked for north of Smith Sound, for that region has been thoroughly explored and yet the bird has never been seen north of Disco. The comparatively large numbers seen by Newcomb and Nansen, as well as the occurrence of the species in the Lena Delta, seem to show that it is really at home in the region between Hvidtenland and Wrangel Island, but the enormous numbers of these birds seen at Point Barrow prove, to my mind, that the main centre of the species is somewhere in that region.

Now, it is well known that there is very strong evidence in favor of the belief that there is a large island not far north of Point Barrow, and I believe that this Keenan Island, as it has been called by our American geographers, is the main breeding ground of the Rosy Gull. That eggs will be found on Hvidtenland, I have no doubt, and a breeding colony will doubtless be found on Bennett Island, but the naturalist who reaches Keenan Island in the proper season will be able to do as well for his museum with the eggs of this bird as we did with the skins.

Almost nothing can be stated positively about the habits of the species. Unquestionably, the flocks that travelled by us toward the northeast were not migrating, for their course led them into the very face of the approaching winter, and away from the open water where food could be procured. They must have been simply wandering aimlessly against the wind, and probably worked back again farther off shore when the wind changed. As far as I know, the bird has never been seen except on the wing, and I fancy that it is a good deal of a wanderer. In all probability, like the polar whale, it spends most of its lifetime about the loose edge of the pack ice well out at sea, coming down into the stormy ocean in winter, and in summer retiring to its inaccessible breeding grounds in the far North. However, this is, as yet, only a plausible hypothesis, and I believe that the life history of this beautiful bird will not be wholly understood until the region north of Point Barrow has been thoroughly explored.

NESTING OF THE HERMIT WARBLER IN THE SIERRA  
NEVADA MOUNTAINS, CALIFORNIA.

BY CHESTER BARLOW.

IT WAS in the summer of 1896 while quietly and leisurely working my way down a steep hill, through a tangle of manzanita and deer brush into a growth of pines, that I met my first Hermit Warbler in life. I had arrived in the Sierra Nevada Mountains of El Dorado Co., Cal., a few days previously, and when I first ventured to explore the woodland, the many similar dainty bird songs from the heavy foliaged black oaks, made positive acquaintance with the various Warblers, by song alone, a difficult matter. This was partially overcome later, but when the notes were mingled in the tree-tops early in the morning, with the little musicians deftly hidden amongst the leaves, it was never easy to always name the songster. Of the Warblers the genus *Dendroica* was represented by *nigrescens*, *auduboni*, *occidentalis* and *æstiva*, with the latter least common, while the Calaveras (*Helminthophila rubricapilla gutturalis*) and Macgillivray's Warblers (*Geothlypis macgillivrayi*) were quite common in the underbrush and the roselike shrub known as 'mountain misery,' both of the latter, however, often feeding in the trees, usually in the black oaks. I also shot one specimen of the Lutescent Warbler (*Helminthophila celata lutescens*) in this locality, which was the only one seen. My observations ranged from 3,000 to 4,500 feet altitude, but the nesting sites were all at 3,700 feet, which formed a part of the transition zone, in which species of both the valley and higher mountains were nesting.

So on July 19, 1896, while whiling away an afternoon on the wooded hillside, a Hermit Warbler (*Dendroica occidentalis*) flitted noiselessly down through the pines and alighted on a bush ten feet distant, its light yellow head and black throat setting off its plumage with rather an odd effect. This specimen I collected, it proving to be a male bird. Thereafter it was met with frequently, seeming to prefer the coniferous trees, where it flitted about feeding and indulging in an occasional burst of song.

In 1897, June 7 to 15 was spent in the same region, the Warblers seeming present in usual numbers, with the Black-throated Gray and Macgillivray's noticeably more common than the others. The Macgillivray's Warbler was commonly noted with families of young in the thick deer brush of the burnt districts, and on June 15 I found a nest of the Black-throated Gray Warbler, cosily hidden away in the center of a manzanita bush on a hill-side, containing four eggs advanced in incubation. The nest was seven feet from the ground and the grayish materials of which it was composed harmonized perfectly with the light greenish gray leaves of the manzanita bush.

A nest of the Hermit Warbler was discovered June 11, 1897, by Mr. F. M. Nutting, just after he had shot the female as she flew to the tree, and contained four young about four days old. The nest was in a small cedar tree, about two and one-half feet from the top of the tree and twelve feet from the ground. It was built on a small horizontal limb of the cedar next the trunk, and was perfectly concealed amid the foliage. The tree grew within a few feet of a wood road, and on the following day the male was observed feeding the young, apparently not seeming to notice the absence of its mate. On the 14th of June a heavy rain and thunder-storm prevailed, resulting in the death of the young birds. The location of this nest seems an exception, the typical nesting seeming to be in the tall conifers.

This year (1898) it was my ambition to seek out the nesting site of the Hermit Warbler, and daily when strolling down the cañon-side or along the paths in the woods, I would see little *D. occidentalis* flitting about a fir tree here or a deer bush a little farther on, nowhere evincing a particular interest and finally fading from view. Once again while sitting in a pine grove quietly waiting to see which of our feathered friends would first discover me, a Hermit Warbler alighted on a low limb of a pine, perhaps fifteen feet away, and deliberately hopped from limb to limb, working toward the top where it was lost to view. To satisfy my curiosity I climbed the tree, which was about 35 feet in height, but there was no evidence of a nest. The Hermit Warbler did not appear to be as active as some of the others, notably the Black-throated Gray, which was very lively both in action and

song while on the border of the clearings, while the Hermit was more deliberate in its movements.

On June 14, I was located at Fyffe, El Dorado Co., and shortly after lunch sauntered along a trail leading off the old stage road and was soon in a growth of yellow pine, which was here and there interspersed with a small clearing where a giant spruce or fir had once towered, but which had long since found its way to the saw-mill. The day was cloudy and the birds were in fuller song than usual at this time of the day. Several Warblers were at first watched to no effect. I was carefully scanning the trees, and presently saw a small dark spot among the needles near the top of a slender pine which stood in a small open space close to a large black oak. No birds came to view, so I climbed the tree, and when well toward the top the uncertain spot became with certainty a small nest, and a moment later I could discern a reddish lining of cedar bark and four eggs which I concluded were those of the Hermit Warbler. Waiting a few moments and not disturbing the nest, soon one and then both birds appeared, settling all doubt as to the identity of the nest. Both hopped slowly about in the top of a black oak exhibiting very little concern and occasionally uttering a weak *tseet*; but no song was given at this time. Leaving the nest I watched the bird from the ground. She flew to the pine and hopped now up and then down, picking at the limb at each hop and finally disappearing into the nest. Returning shortly after with camera I again climbed the tree, the female leaving the nest when I was several feet from it. With difficulty, sitting astride a small limb, I made several pictures of the nest *in situ*.

The nest was 45 feet from the ground in a yellow pine, built four feet from the trunk of the tree on an up-curved limb 18 inches from the end. The nest rested nearly on the pine needles at the junction of two small limbs. Carefully wrapping the eggs I sawed off the limb supporting the nest; this seemed to excite the birds more than anything else, both hopping about and uttering their *tseet, tseet* at a lively rate. When I finally descended, the birds hopped about the tree and to the spot where the nest had been; then one would fly to a large spruce near by and launch into a weak song. I collected the female parent.

The nest is not fastened to the limb, resting merely upon the limb and pine needles and is wider at the bottom than at the top, its base measuring four inches one way and three inches the other. It is very prettily constructed, the bottom layer being of light grayish weed stems, bleached pine needles and other light materials held securely together by cobwebs and woolly substances. The nest cavity is lined with strips of red cedar bark (*Libocedrus*) and the ends, instead of being woven smoothly, project out of the nest. The inner lining is of a fine brownish fiber resembling shreds of the soap-root. The composition of the nest gives it a very pretty effect. The eggs were about two-fifths advanced in incubation and measured  $.66 \times .52$ ,  $.68 \times .53$ ,  $.67 \times .53$  and  $.67 \times .53$  inches. They are spotted chiefly in wreaths at the large end with varying shades of lilac, brown and chestnut. This forms the second recorded set of eggs of this Warbler, the first having been taken by Mr. R. H. Beck in 1896 near this locality.

During my stay in the mountains I became well acquainted with the song of the Hermit Warbler. Though not loud it would penetrate through the woods quite a distance and very much resembled *tsit, tsit, tsit, tsit, chee chee chee*, the first four syllables being uttered with a gradual and uniform speed, ending quickly with the *chee chee chee*. It was quite distinct from any of the other Warbler songs, and whenever it was heard the little musician was usually traced to some pine tree where he would be found hopping nervously about.

My ten days' vacation was productive of many interesting sights. Western Robins were nesting rather commonly, seeming to prefer the pines and cedars, in which the nest was usually placed near the top in a crotch at the trunk of the tree. Cassin's Vireos, usually common nesting residents, were going about in pairs in full song, and it seems likely that but few nested this season, owing to peculiar climatic conditions.

A pair of White-headed Woodpeckers had a nest seven feet up in a large pine stub near the house, in which a pair of Western Bluebirds were also nesting. Both the nests contained young and it was interesting to observe them. As I watched, the female Woodpecker, with a grub in her beak, came and alighted variously on the fence and cedar trees near by until she sum-

moned courage enough to fly to the stub, when both Bluebirds fiercely attacked her, she retreating to a pine on the edge of the woods. Soon she ventured to try again and alighted on the back of the large stub, when instantly the young Woodpeckers set up their squeaky little notes, evidently having heard her through the medium of the wood. She hopped around and up to the hole and one little white head bobbed up. She thrust her head into the cavity, deposited the morsel and was away to the forest once more. During the next few days it was a common sight to see a little white head peering out of the hole, its little owner evidently anxious to see the outside world.

My friend, Mr. L. E. Taylor, a very careful observer, sent me a beautiful nest and five eggs of the Western Winter Wren, which he collected on July 12 near Fyffe, El Dorado Co. He writes that an old nest was shown him by a German prospector and while examining it the new nest was discovered. Mr. Taylor writes as follows: "He said that in his country (Germany) the bird was called the 'Snow King,' as it came only in winter and lived in the snow. From his description I thought it must be the Western Winter Wren, so I got him to show me the nest with a view to photographing it for you and collecting the nest. He said he was prospecting and was 'panning out' and heard a sort of drumming noise and looked up to see what caused it and saw it was made by the 'Snow King,' which was feeding its young not more than two feet from his head. He watched the bird some time and continued to work near by and to 'pan out' in the same place. The bird soon became quite fearless and seemed to be not at all afraid of him.

"The nest is built in the side of a perpendicular bank about four feet high and the nest is half way up and is set into the bank so the outer edge of the nest is even with the face of the bank and just showed the rim and a little moss on careful inspection. The entrance looks like a small hole in the bank. I could just reach the bottom of the nest with my fingers and found some egg shells, showing young had been raised. While talking the matter over I saw a Wren fly down into a prospect hole a short distance away, and it not coming out again, I went to the hole and, stepping into it, flushed the bird from the nest.



It proved to be situated just like the other one and contained five beautiful eggs. I got the nest out with some difficulty, as it was held to the bank by many small roots. The cavity in which the nest was made is lined overhead with moss, making a roof for the nest."

Upon receiving the nest and eggs from Mr. Taylor I found the eggs addled and the bird had doubtless been sitting upon them for some time in vain; otherwise this nesting date would be unusually late and the site of the nest an unusual one. The prospect hole in which the nest was found was on a hillside fully exposed to the sun and very dry, which seems quite in contrast to the usual habitat of this Wren.

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## SOME OBSERVATIONS ON THE ANATIDÆ OF NORTH DAKOTA.

BY REV. HERBERT K. JOB.

It was my privilege in the spring of 1898 to enjoy a collecting trip in North Dakota that covered nearly the whole nesting period,—from May 6 to July 4. With a companion, 'rig,' and camp outfit I made a 600 mile tour, visiting most of the principal lakes in the northern half of the State, as far west as into the Turtle Mountains. Paying especial attention to the Ducks, I had an unusual opportunity to note the distribution of the different species throughout the broad region that I traversed. Fourteen species were found nesting, namely,—Mallard, Gadwall, Baldpate, Green-winged Teal, Blue-winged Teal, Shoveller, Pintail, Redhead, Canvas-back, Lesser Scaup, Ring-neck, American Golden-eye, White-winged Scoter, and Ruddy Duck.

As nearly all the land in the region visited has been, or is being, taken up by settlers, the Anatidæ are on the wane in the breeding season, according to all accounts. Yet I was surprised at

their abundance and general distribution. I visited five or six different localities, aside from Devil's Lake, where the Canada Goose still breeds, and found several nests. A few Swans are yet reported by residents around Devil's Lake during the nesting season. Reports of their nesting in or near the Turtle Mountain country I failed to verify, though I think they have done so in recent years, and a few may yet, further west than I went.

I should classify the Ducks as to their occurrence in the breeding season in the following groups:—

1. *Abundant*:—Blue-winged Teal, Shoveller, Mallard, and Pin-tail. These were seen in nearly every puddle large enough for a Duck to swim in, as well as in all larger bodies of water.

2. *Common*:—Gadwall, Baldpate, Red-head, and Lesser Scaup. These were found about most of the larger sloughs and lakes, and many of the smaller.

3. *Locally common*:—Canvas-back, Ruddy, American Golden-eye, and White-winged Scoter,—the latter only in the Devil's Lake region.

4. *Rare*:—Green-winged Teal, Greater Scaup, Ring-neck, Wood Duck, and Hooded Merganser.

The Hooded Merganser (*Lophodytes cucullatus*) I did not meet on this trip, but in 1890, about the first of June, I came close upon a pair swimming in the Sheyenne River. The Wood Duck I noted but once,—a male, in the Goose River. I did not find the Buffle-head.

The only specimen of the Ring-necked Duck (*Aythya affinis*) was encountered in the Turtle Mountains, on June 14, when I was so fortunate as to start a female from her nest. It was in a reedy, boggy bayou, or arm of a lake, which was full of Bitterns, Black Terns, and Bronzed, Red-winged, and Yellow-headed Blackbirds. I was on my way out to photograph a Bittern's nest already found, and was struggling along more than up to my knees in mud and water, when a smallish Duck flushed almost at my feet from some thick, dead rushes, disclosing twelve buffy eggs, nearly fresh. The clear view within a yard of the pearl gray speculum and the total absence of white on the wing told the story. She alighted near by in open water, and gave me and my companion such fine opportunity to study her with the glass

and note every detail of her plumage, both as she sat and as she flew back and forth before us, that it was not necessary to sacrifice her for identification. Nothing was seen of the male.

I met the Green-winged Teal (*Nettion carolinensis*) on two occasions. The first time was in Steele County on May 11, when I came upon a pair sitting with some of the other Teal, Shovelers, and Pintails in a small pond close to a farm-house. The other instance was on June 20, at Rolla, near the Turtle Mountains, when, investigating a small, reedy prairie-slough, I came upon a female manifesting great anxiety, and soon drove from the tall reeds her brood of eight young. For a quarter of an hour that mother flapped, limped, and dragged herself around, at times so close to me that I could almost touch her. The ducklings were of very tender age.

The Greater Scaup (*Aythya marila*) I am confident of meeting in considerable numbers in one large reedy slough not far from Devil's Lake, both in May and towards the end of June. The Lesser Scaup was there too, and I could not but notice the difference in size between them. My last visit, at the breeding time, had to be very brief, and I did not happen upon any nest. In this one slough were ten species of Ducks, all in good numbers. The place was fairly alive with Ducks, as were many other similar localities that I came across in my travels.

The White-winged Scoter (*Oidemia deglandi*) I found quite common in two localities in the Devil's Lake region. During the first part of the season I searched in vain for nests. But on June 27 I solved the mystery by finding eight nests on a group of small islands. They contained 14, 13, 10, 10, 7, 6, 1, 0, eggs respectively. The last was a new nest ready for eggs. This shows that the bird is a very late breeder. In only three instances was the bird on the nest, — the first three mentioned. The eggs were all fresh, in the other instances being cold, covered with down, debris, and loam that had been scratched over them. The nest is the flimsiest built by any species of Duck that I have observed, — a mere depression in the bare earth, with a frail rim of dark down, weed-stems, and grass around it. The eggs are of a pinkish flesh-color, even after being blown. In every case the nest was under a clump of bushes, with woody stems, never in

weeds or grass. Six were under wild rose bushes, two under a common bush, of which I do not know the scientific name. The females found on the nests sat very close.

On these islands the same day I found about twenty nests each of the Baldpate and Lesser Scaup, built in clumps of grass or weeds, but not one under bushes. I shot several of the Scaups, but they were all *affinis*. Full sets of each varied from six to twelve, those of nine and ten being the commonest. The Baldpates' eggs were nearly all perfectly fresh, some sets incomplete. Most of the Scaup sets were moderately incubated, some of them considerably, though some, too, were fresh.

The American Golden-eye (*Clangula clangula americana*) is found breeding in small colonies in various patches of timber in the region of Devil's Lake. I also saw a few males in the Turtle Mountains, but did not find any nests. Sets of this species were completed from about May 20 to the first of June this year. In one colony most of the sets hatched from June 20 to 25. It was a beautiful sight to peer into a hollow tree and see a female with her newly hatched black and white ducklings. The little things were not afraid, but would patter about in the hollow, picking at something, or climb up on the back of their frightened parent, who would not attempt to fly out, but lie over on her side, look up, and hiss at the intruder. The next day the whole family would be gone.

The Ruddy Duck (*Erismatura jamaicensis*) and Canvas-back (*Aythya vallisneria*) were rather sparingly distributed, a few pairs to a slough or lake here and there. Where one was seen, the other was likely to be found. In one slough which I visited on May 21 I noticed numerous Ruddies in pairs swimming among the reeds, and out in the middle in open lanes of water I counted eleven pairs of Canvas-back, scattered here and there, and one lone male, whose partner had evidently begun her long vigil. I found eggs of the latter species slightly incubated on May 18 and June 18, and on June 28 saw a female with a brood of small young.

In regard to nesting dates of the different species, while there is, of course, a general average time at which each tends to breed, individuals are more or less erratic. Some Mallards, for example,

begin incubation early in May, but many wait until early or even middle June. I found nearly fresh sets of the Red-head in the first days of June, and two large fresh sets, on which incubation had not commenced, on the 28th of that month. My season's experience would indicate that the Mallard, Pintail, and Gadwall are, on the whole, the earliest breeders, a fair proportion, at least, beginning incubation by May 20. The Golden-eye, too, belongs among the early breeders. Most of the other species are fairly at work during the first week or ten days of June. The Scaups follow about June 15 to 20, the procession ending with the Baldpates and Scoters the last of June and first of July. This estimate is based solely on my observations of the season of 1898, and may not represent other years. The weather was very cold and wet all through. It seemed as though many of the Ducks of all species would never settle down to breeding. Hundreds and hundreds of all kinds remained paired up to the middle of June.

The laying of different species in each others' nests was interesting. I found Red-head's eggs in a Canvas-back's nest, Ruddy's eggs twice in Red-head's, Lesser Scaup's in a Shoveller's and what I took to be Shoveller's eggs in the nest of a Baldpate.

I did not notice any special localization of the species in the regions visited, except of Scoters and Golden-eyes, which has already been described. The other species were found everywhere in the same comparative abundance wherever the conditions as to water were suited to their habits. All Ducks were scarce in the older settled country in the extreme eastern part of the State, at least in those parts of it I visited. Few also were found along the rivers, as compared with the prairie lakes and sloughs. Despite glowing accounts of the abundance of Ducks in the Turtle Mountain lakes, I found them almost entirely absent, meeting only scattered individuals. The country is all timbered, and the stony shores of the lakes offer few good nesting sites. The collector will find the typical species there to be the Loon, Holboell's Grebe, Bittern, Red-tailed Hawk, Sapsucker, Purple Martin, and various interesting, as well as rare, small birds.

SOME PHILADELPHIA ORNITHOLOGICAL COLLEC-  
TIONS AND COLLECTORS, 1784-1850.<sup>1</sup>

BY WITMER STONE.

ORNITHOLOGICAL study has for so many years centered around the city of Washington and the National Museum, that many of our ornithologists have well nigh forgotten, while some perhaps have never known, that during the first half of the present century Philadelphia stood preëminent in the American ornithological world.

The large majority of our early ornithologists were Philadelphians, either by birth or residence, and with the exception of such works as the 'Birds of America' and the several Reports of Government Exploring Expeditions, nearly all the contributions to ornithology appeared in the 'Journal' and 'Proceedings' of the Academy of Natural Sciences of Philadelphia. In fact, every American ornithologist of note, from Audubon to Baird, and the various naturalists of the Pacific R. R. Surveys, appears as a contributor to these journals.

The ornithological collection of the Philadelphia Academy in 1850 was not only far ahead of any other in America but was considered by such an eminent authority as Philip Lutley Sclater to be "superior to that of any museum in Europe and therefore the most perfect in existence."

In view of the interest that attaches to these early collections which are so closely associated with the beginnings of bird study in America, it has seemed to me that it would be interesting and fitting to the present occasion to look a little into the history of the collections and of the men to whom they owe their existence.

Alexander Wilson, from whom systematic American ornithology may be said to date, came to Philadelphia in 1794, and though it was fourteen years before the first part of his work appeared in print, he had already announced his intention of making "a collection of all our finest birds" as early as 1803.

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<sup>1</sup> Read before the Sixteenth Congress of the American Ornithologists' Union, Washington, D. C., Nov. 15, 1898.

The Philadelphia Academy was not founded until the year before Wilson's death in 1813, so that he had no association with it as he undoubtedly would have had had he lived longer.

The only museum in Philadelphia during his time was the famous Peale's Museum. Of this he makes frequent mention in his writings, and here he deposited many of the specimens which served as the types of the new species described and figured in the 'American Ornithology.'

The birds secured by Thomas Say on Major Long's expedition to the Rocky Mountains in 1819-20 seem to have likewise been deposited in Peale's Museum, as Bonaparte in his continuation of Wilson's work figured several of Say's birds and refers by numbers to specimens in the museum. The single fact that Wilson's and Say's types were included in the Peale collection makes its history of much importance to us to-day, but the many other historical associations connected with the museum greatly increase its interest.

Peale's Museum was originally opened in 1784, then consisting mainly of the paintings of the proprietor and artist, Charles Wilson Peale; later from time to time various natural curiosities were added, and the museum was moved several times as more commodious quarters were required. In 1821 its name was changed to the Philadelphia Museum, and it was under the management of a company composed mainly of Peale's sons, including Titian Peale, the ornithologist of the U. S. Exploring Expedition.

In the early days of the museum Peale attempted to open it on Sundays, which naturally brought forth heavy criticism from the public press, to counteract which he had a sign prepared for display on the Sabbath, bearing the legend: "Here the wonderful works of the Divinity may be contemplated with pleasure and advantage. Let no one enter to-day with any other view."

In 1794 we learn that a small zoölogical garden was started in connection with the museum proper, the chief attraction being a **Bald Eagle**, with a sign "Feed me well and I'll live 100 years," from which we infer that the animals were largely dependent for subsistence upon the liberality of the visitors.

One of the original catalogues published in April, 1805, and

still preserved in the library of the Historical Society of Pennsylvania, contains an interesting account of the collections, and as many of us are concerned with beasts of the earth as well as birds of the air I may be pardoned for quoting the paragraph on the mammals as well as that relating to the birds: —

“Among the most remarkable of the Quadrupeds are — The Long-clawed Grisly Bear from the source of the Missouri. The American Buffaloe or Bison, the Great Anteater (7 ft. 7 ins from snout to tip of tail). The Ourang Outang or wild man of the woods. The crested Porcupine, some of whose quills measure 18 ins, the American and New Holland ditto, Madagascar Bats (measuring 4 ft. from tip to tip). The Hooded Bat etc etc. The Lama or Camel of South America, the untameable Hyaena and fierce Jackall. American Elks, the Picary remarkable for a secretory organ on its back. The slow moving *Bradypus* or Sloth, Antelopes from Africa, the Indian Musk of astonishing agility and the Kangaroo or Opossum from Botany Bay, etc.”

“All the birds are in glass cases, the insides of which are painted to represent appropriate scenery, Mountains, Plains, or Waters, the birds being placed on branches or artificial rocks.

“There are now in the collection (including many nondescripts) perhaps all the birds belonging to the middle, many of which likewise belong to the northern and southern States and a considerable number from South America, Europe, Africa, Asia and New Holland and the newly discovered islands in the south seas. The number exceeds 760 without the admission of any duplicates, contained in 140 cases.”

One of the most famous attractions of Peale's Museum was the mounted skeleton of a mastodon, erected by one of Peale's sons, who celebrated the completion of the work by given a dinner to twelve of his friends, the table as well as a piano being placed on a platform inside the body cavity and supported on the ribs.

Like many similar undertakings, the Museum company by a too lavish expenditure of money on their last building became involved in debt and after a vain effort to make the museum self-sustaining by adding musical and other attractions they were finally compelled to close the doors in 1844.

The decline of the museum and its passage through successive



stages of museum proper, lecture hall, music hall, and variety stage, seems to have been so gradual that the final closing of the enterprise caused little comment. No record has been kept of the disposal of the specimens, and all efforts to trace the history of the Wilson and Say types have proved futile. All that seems to be known is that part of the natural history material was purchased by P. T. Barnum and was later burnt in his memorable fire in New York while other parts of the collections went to Boston, Baltimore, and Lancaster. The only types from the Peale collections that have been preserved, so far as I am aware, are Wilson's Broad-winged Hawk and Mississippi Kite, both of which are in the Philadelphia Academy labelled as having been obtained by exchange from Peale's Museum.

By 1825 the Academy of Natural Sciences was sharing the attention of the scientific world with the older Museum of Peale. It had become firmly established and was doing excellent work, not only in ornithology but in many other branches, and had enrolled in its membership all the prominent American naturalists of the time, many of whom are familiar to us to-day as pioneers in their respective specialties.

Curiously enough there is preserved an account of a meeting of the Academy held at this time, written by Dr. Edmund Porter of Frenchtown, N. J., in a letter to Dr. Thomas Miner of Haddam, Conn., dated Oct. 25, 1825, from which we can gain some idea of the personnel of the Academy meetings of this period. Dr. Porter writes: "A few evenings since I was associated with a society of gentlemen, members of the Academy of Natural Sciences. There were present fifteen or twenty. Among the number was La Suer, Rafanesque, Say, Peale, Pattison, Harlan and Chas. Lucien Bonaparte.

"Among this collection life was most strikingly exemplified. — *La Suer*, with a countenance weather-beaten and worn, looked on, for the muscles of his ironbound visage seemed as incapable of motion, as those on the medals, struck in the age of Julius Caesar. *Rafanesque* has a fine black eye, rather bald, and black hair, and withal is rather corpulent. I was informed that he was a native of Constantinople. At present he lives in Kentucky. *Dr. Harlan* is a spruce young man and has written a book.

*Peale* is the son of the original proprietor of the Philadelphia Museum, and one who visited the Rocky Mountains with Major Long; he is a young man, and has no remarkable indications of countenance to distinguish him. *Say*, who was his companion in the same expedition, is an extremely interesting man; to him I am particularly obligated for showing me their Museum and Library. I think he told me that their society had published nine volumes. . . . *Bonaparte* is the son of Lucien Bonaparte and nephew to the Emperor Napoleon; he is a little set, blackeyed fellow, quite talkative, and withal an interesting and companionable fellow. He devotes his attention to ornithology and has published a continuation of Wilson's work on the above subject. . . . *Hays*, an interesting Jew, delivered a lecture on mineralogy. He had collected his specimens in the Catskill Mountains. C. L. Bonaparte read a memoir on the 'Golden Plover.' To a novice it seems curious, that men of the first intellect should pay so much attention to web-footed gentry with wings.

"A Latin letter was read by *Mr. Collins* descriptive of a certain plant, growing on the waters of the Arkansaw; for my part I did not understand much of it—however it was to those who did not the less valuable."<sup>1</sup>

The attendance at this meeting was indeed a remarkable assemblage. As an ornithologist Bonaparte was by far the most celebrated, and though at this date he was but twenty-two years of age he had already published the first volume of his 'American Ornithology' and laid the foundations for the study of nomenclature and synonymy which has to day developed to such formidable proportions. Say and Peale both made their mark in ornithology, the former in his descriptions of the birds obtained on Long's expedition and the latter in the report on the birds of the U. S. Exploring Expedition to the South Seas. Peale was also famous as a collector, and many of the novelties described by Bonaparte owed their discovery to his energetic labors in the field.

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<sup>1</sup> Penna. Mag. of Hist. and Biography, Vol. XVI, p. 249 (July 1892). Reference to the manuscript minutes of the Academy shows that this meeting occurred on Oct. 11. George Ord presided, and among the other members present were Dr. Godman and S. G. Morton.

Of all the participants in that meeting of 1825, however, Rafinesque stands out as the most striking character. Eccentric and egotistical to the last degree, he attempted to cover the whole field of science, history, and finance. His scientific works were for the most part ignored by his contemporaries, and in return he handled them without mercy. We can picture their mingled pity and contempt when Rafinesque wrote, "I consider myself endowed with a sagacity for the perception of generic and specific differences far in advance of any man of my time," and yet have we not to-day to a great extent the same views which he held on these matters, and are we not resurrecting many of his names which for nearly a century have been allowed to rest as the vagaries of an erratic mind?

Fortunately he touched but lightly upon ornithology, and we are spared the irritation which his numerous and abbreviated diagnoses produce in the minds of our botanists, conchologists and mammalogists.

The birds which were collected on the Long Expedition and described by Say were, as already explained, deposited in Peale's Museum and not in the Academy as has been often supposed, this action being in all probability due to the influence of Titian Peale who accompanied the expedition and doubtless himself collected the specimens.

The failure to obtain the Rocky Mountain collection was not much felt at the Academy, as they soon received a far richer collection of western birds than that made by Long's expedition.

In 1834 Dr. John K. Townsend, already an active ornithologist at the Academy, undertook a journey to the mouth of the Columbia River. He was accompanied by Thomas Nuttall, who at that time was mainly interested in botany, and apparently allowed Townsend a clear field among the birds. Nuttall returned in the following year after visiting the Hawaiian Islands and California. Townsend, however, did not reach home until the close of 1836, visiting, meantime, Hawaii, some of the other Pacific Islands, and Chili.

Townsend's collection was the most important yet secured in western North America and the specimens subsequently served as the types of new species described not only by himself, but by Audubon, Nuttall, Cassin, and Titian Peale.

Some of the incidents connected with the history of this collection are very entertaining. It seems that such specimens as Townsend had secured up to the time of Nuttall's departure were sent home, in his care, at any rate they were in Philadelphia in 1836 — presumably at the Academy.

Audubon learned of this and at once hastened thither, being anxious to secure the novelties for publication in his great work then well under way.

He had already seen Nuttall in Boston and obtained specimens of such new species as he had brought; apparently only *Agelaius tricolor* and *Picus nuttalli*. That Nuttall did not secure more specimens is doubtless due, as Audubon states, to the fact that "he was not in the habit of carrying a gun on his rambles" — a custom which, though it apparently did not appeal very strongly to Audubon, would win unbounded admiration from the societies which bear his name to-day.

When Audubon reached Philadelphia he was deeply disgusted because Townsend's friends quite naturally would not allow him to publish the new species which this energetic explorer had secured, thinking that they had best remain undescribed until their discoverer returned to take them in hand personally.

Notwithstanding that Audubon claimed to have very little care for priority in the naming of species, his desire to publish these birds was intense, and he says: "Having obtained access to the collection I turned over and over the new and rare species but he (Townsend) was absent at Fort Vancouver on the shores of the Columbia River, Thomas Nuttall had not yet come from Boston and loud murmurs were uttered by the *soidisant* friends of science, who objected to my seeing, much less portraying and describing, these valuable relics of birds, many of which had not yet been introduced into our fauna. The traveller's appetite is much increased by the knowledge of the distance which he has to tramp before he can obtain a meal; and with me the desire of obtaining the specimens in question increased in proportion to the difficulties that presented themselves." After summoning to his aid Thos. Nuttall, who had then arrived in Philadelphia, Drs. Pickering, Harlan, Morton, McMurtrie, Trudeau and Edw.

Harris,<sup>1</sup> an arrangement was made whereby Audubon and Nuttall jointly were to prepare diagnoses of the new species for publication in the 'Journal' of the Academy under Townsend's name as author, after which Audubon (or Edw. Harris for him) was allowed to purchase the duplicates for use in making the plates for the 'Birds of America.'

This plan was carried out and Townsend was honored by having one of the new birds named after him, but being himself the ostensible author of the paper, he is placed in the embarrassing position of having named the bird after himself.

Most of the birds subsequently collected by Townsend seem to have gone direct to Audubon and were published by him in the 'Birds of America,' the manuscript notes of both Townsend and Nuttall furnishing most of the text.

That the treatment of these birds by Audubon was not altogether to Townsend's liking is evinced by a paper of his in the Academy's 'Journal' after his return, as well as by MS. notes in the Academy's copy of Audubon's work, wherein it appears that certain of Townsend's notes were mixed and published under the wrong birds. Matters of nomenclature also worried him, since he claims that *Agelaius tricolor* was Nuttall's MS. name and should have been credited to him, and that Audubon appropriated it to himself. By our present rulings on MS. names, however, I fear Nuttall would have been no better off to-day than if Audubon had acted as Townsend thought just.

The ultimate history of these types of Townsend and Audubon is interesting. The former nearly all remain at the Philadelphia Academy, while the Audubon specimens were divided, part being given to Edw. Harris and part to Prof. Baird. Subsequently these were presented, respectively, to the Philadelphia Academy and the National Museum.

This collection was the first notable contribution to the Academy's cabinet. By 1837, however, it contained about 1000 specimens, and in the succeeding ten years about 550 more were added. The ornithologists who appeared on the field during this period were John Cassin, S. F. Baird, A. L. Heermann, William Gambel, and S. W. Woodhouse.

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<sup>1</sup> Preface to the fourth volume of the 'Ornithological Biography.'

In 1846 the collection attracted the interest of a man who, as a patron of ornithology, did more to advance the science in America than any other individual, but who, owing to his extreme modesty and aversion to publishing the results of his researches is very little known to-day outside of the Academy. This was Thomas B. Wilson, a wealthy member of the institution and afterwards its President. By his great liberality the Academy's collections in many departments were largely increased, and the library was rendered as complete as it was possible to make it. It was in ornithology, however, that he became especially interested. Through the agency of his brother, Edward Wilson, residing in London, he entered into negotiations with a prominent taxidermist of that city to furnish him with birds in lots of 100 at so much a piece, the price to vary with each lot in accordance with the rarity of the species.

Before closing the bargain, however, he asked the advice of Dr. J. E. Gray of the British Museum and was strongly recommended to purchase some large collection entire as a much more economical investment. Dr. Gray further suggested the collection of Victor Massena, Duc di Rivoli and Prince d'Esling, which was then in the market, and finally agreed to do his best to negotiate the purchase, as he was at that time about to visit Paris. His results are best told in his own words:

"On my arrival in Paris, I put up at Meurice's, and at once sent a messenger with a note to the Prince Massena, saying that I was willing to purchase the collection of birds at the rate of four francs per specimen, and that I was prepared to pay for it in ready money. While sitting at dinner at the table d'hôte, an aide-de-camp came in, all green and gold, with a cocked hat and a large white feather, to inquire for me, with a message from the Prince to inquire what I intended by ready money, and, when I explained, to inquire if I was ready to pay the sum (50,000 francs) that evening. I said no, that I had only just arrived in Paris and had not delivered my letter of credit to the banker, but I would be ready to pay as soon as the bank opened the next morning. He said the bank opened early, and would I come to the prince at seven o'clock? to which I assented. I immediately sent my letter of credit to Messrs. Green, and mentioned

the sum that I should draw for early the next morning. I kept my appointment, the prince met me, declared the collection agreed with the catalogue, on which I gave his highness a cheque on Messrs. Green and he gave me a receipt and handed me the keys of the cases, and I sealed them up, the affair being settled in a few minutes.

"Having finished my work sooner than I expected, and it still being early, I went to call on my dear old friend Prof. DeBlainville and had breakfast with him. He asked me what brought me to Paris. I said, among other things, to purchase the Prince Massena's Collection of Birds, which I had done; on which he became much excited and said that the French Government had intended to purchase it and that he must take measures to prevent its leaving France. I said I was not aware that the Government wanted it for I knew it had been for several years in the market, and it was now too late, as I had paid for the collection, which was now in my possession, and I showed him the keys of the cases and the receipt for the money. At length my good and kind friend became pacified."<sup>1</sup>

This collection comprised some 12,500 specimens, and its acquisition, as Thoreau<sup>2</sup> says, "by a Yankee, over all the crowned heads of Europe," was greatly to the credit of American energy and enterprise.

Dr. Wilson followed this purchase with that of the Gould collection of Australian Birds, and the Boys Indian collection, besides securing many small collections, so that when the whole was formally presented to the Academy it comprised about 26,000 specimens, including some 600 types of Gould, Cassin, Bonaparte, Temminck, Lafresnay, Vieillot, Lesson, Smith, Sclater, Verreaux, and Strickland.

Such a collection as this, brought together at such an early date, was indeed wonderful, and though John Cassin worked at it until the time of his death, and described some 200 new species, there remained probably several hundred doubtfully named birds

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<sup>1</sup> *Annals and Magazine of Nat. Hist.*, 1869, Vol. III, p. 317.

<sup>2</sup> *Journal*, Nov. 21, 1854, after a visit to the Academy.

which subsequent and more extended collections have shown to be distinct species.

Cassin has been justly termed by Dr. Coues "the only ornithologist this country has ever produced who was as familiar with the birds of the Old World as with those of America," but the opportunity of attaining the great knowledge which he possessed was offered by the liberality of Thomas B. Wilson.

Had Dr. Wilson endowed his famous collection sufficiently to have ensured a permanent curator, Philadelphia's ornithological history would have gone on without a break, but as it was, the death of Cassin in 1869, marked the close of active work, and for twenty years the collection remained almost untouched by ornithologists. There arose a new generation of bird students, the 'Bulletin' of the Nuttall Club appeared, the A. O. U. was organized, and meantime the Philadelphia collection was all but forgotten. Many specimens were there which would have been of the greatest interest to the contributors to the 'Nuttall Bulletin' and the early numbers of 'The Auk'; though much of their importance has been lost to-day owing to the systematic collecting in every part of our country, whereby many of the great rarities of past years have become familiar to all.

Though it be stretching my theme unduly, I may be permitted to add that the collection is still in a remarkably good state of preservation, and that scarcely any of the types have been lost, while to the 26,000 specimens of old, the past ten years have added 18,000 more.

It was not my intention to speak of all the ornithologists or all the individual collections which have come to Philadelphia, and I will not therefore weary you with more details, but in closing I must make some allusion to a small collection of skins which came to the Academy during the past year as a part of the legacy of the late Edward D. Cope. This was a collection formed by Bernard Hoopes, and included the celebrated series of Warblers formerly the property of Chas. S. Turnbull, author of the 'Birds of East Pennsylvania and New Jersey,' both of these collectors being contemporaries of Cassin.

This Warbler collection was considered the finest in existence in Turnbull's time and contains such rarities as the Olive,



Hermit, and Swainson Warblers. There is also the specimen of Townsend's Warbler from Chester Co., Pennsylvania, the only one taken east of the Rocky Mountains, which passed through several hands, selling for fabulous prices. There is also an Ipswich Sparrow, obviously secured long before the type was obtained.

In contemplating these specimens which have reposed in their old cabinet for nearly 30 years untouched by the hands of ornithologists, their antiquated labels oblivious to the edicts of the A. O. U. committee on nomenclature, one seems to be almost in touch with the past generation. Besides those I have mentioned are some Philadelphia Vireos and other birds collected by Prof. Cope at the time he was just starting upon his scientific career and presented by him to Turnbull. One cannot but wonder what would have been the outcome had Prof. Cope in later years continued to turn his attention to ornithology instead of neglecting it, as he did almost entirely.

I recall one instance; some two years before his death, when I was engaged in systematizing a heterogeneous collection of birds he entered the room and in the course of conversation took exception to some of the characters used in their classification. "What you want," he said, "are alcoholic specimens; then you can get at their proper relationships;" and added, with a smile, "some day perhaps I shall get at the birds and straighten them all out." But other fields continued to demand his attention and Philadelphia was prevented from adding his name to her already long list of notable ornithologists.

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## GENERAL NOTES.

*Thalassidroma castro* of Harcourt. — Now that the question of *Thalassidroma castro* vs. *Oceanodroma cryptoleucura* has been brought up by Mr. Grant in 'The Ibis,' and passed upon, as far as the A. O. U. 'Check-List' is concerned, by the A. O. U. Committee on Classification, ornithologists may wish to consult the original description, which will be more generally accessible if reprinted in 'The Auk.' It is as follows: "It differs from Leach's petrel, to which it is closely allied, in being larger;

it has a shorter wing and shorter tarsus, though its entire length is greater; it has also a square tail instead of a forked one. It measures seven inches and a half entire length; from the carpus to the end of the wing, five inches and three quarters; tarsus, three-quarters of an inch. I have called it *Thalassidroma castro*, as I am not aware that it has ever been described before." (A Sketch of Madeira, 1851, 123.) The specific name is derived from that of "*Roque de Castro*," given by the natives. The type locality is the Desertas Islands, near Madeira. — CHAS. W. RICHMOND, *Washington, D. C.*

*Pelecanus occidentalis* vs. *P. fuscus*. — Although "*Pelecanus fuscus*," credited to Linnæus, Syst. Nat., ed. 12, 1766, 215, has stood in our 'Check-List' since 1886, a glance at the first-mentioned work will convince any one that Linnæus used no such name. He divides *Pelecanus onocrotalus* into two varieties, *α. orientalis*, and *β. occidentalis*; under the latter are cited the "*Onocrotalus s. Pelecanus fuscus*" of Sloane's 'Jamaica,' the "*Onocrotalus americanus*" of Edwards, the "*Pelecanus subfuscus, gula distensili*" of Brown's 'Jamaica,' etc. The habitat of *β* is given as "America," and the references belong mainly to the Brown Pelican of Eastern North America. Varietal names, as used by Linnæus, were italicized and designated by a Greek letter instead of a separate number, but all such names were binomial marginal ones, and ought to be recognized. If ornithologists accept this view our Brown Pelican should stand as *Pelecanus occidentalis*; otherwise the *P. fuscus* of the 'Check-List' must be credited to Gmelin. — CHAS. W. RICHMOND, *Washington, D. C.*

**Old Squaw** (*Clangula hyemalis*) in Indiana. — A few records have been given of individuals taken in the State, and in all instances they were probably blown inland by severe storms off Lake Michigan, where they are usually abundant in the winter season.

On Feb. 12, 1899, during intensely cold weather, a flock of thirteen was killed at English Lake, Ind., some thirty-five miles directly south of Lake Michigan. There was no open water, except a small space, some thirty yards square, where the ice had been cut and taken out for storing, and here the flock suddenly alighted. They were evidently in an exhausted condition, hunting for open water, as they paid no attention to twenty or thirty men working around the hole and floating out the ice, and only dove when struck at with pike poles. A gun was soon procured, and the whole flock dispatched, and a male specimen was sent to me. The following morning, February 13, three more Ducks of this species attempted to alight in the same hole, which had been kept open by the ice cutters, but a hungry Bald Eagle, who has a nest a half mile distant, stooped to them, without success however, and they continued a hurried flight over the frozen marshes.

I have never known of a specimen taken before on the Kankakee Marshes. As they do not appear in any numbers at the southern end of Lake Michigan until early in December, an unusually early record is one killed at Calumet Heights, Ind., near the lake shore, on Oct. 29, 1898, by Dr. A. W. Harlan. — RUTHVEN DEANE, *Chicago, Ill.*

**White-winged Scoters (*Oidemia deglandi*).**—I am informed that a large flight of adult White-winged Scoters going south was seen at Cohasset, Massachusetts, Oct. 2, 1898. The birds were flying high, with a gentle southeast wind. A dense fog in the afternoon prevented them from being seen, up to which time the flight continued. — GEORGE H. MACKAY, *Nantucket, Mass.*

**Gallinago major versus Gallinago media.**—In 'The Auk,' for April, 1897, Dr. Coues sets forth the proper claims of the Greater Snipe to a place in the A. O. U. Check-List, to which it has accordingly been admitted by the Committee (*Auk*, Jan., 1899, XVI, 105), under the name *Gallinago major* (Gmelin). But as Dr. Coues himself admits, *major* is not the earliest name for the species; yet in spite of this he urges its adoption,—a clear violation of the law of priority. *Scolopax media* Frisch (Vorst. Vög. Deutschl., 1763, pl. 228) as also *Gallinago media* Gerini (Orn. Meth. Dig., 1773, IV, 59, pl. cdxlvi) seem to apply to this bird, and although I have not been able to verify these references, there is apparently no valid reason for rejecting the specific name they impose. Even should this not be so, *media* must still be used for the species, since *Scolopax media* Latham, Gen. Syn. Suppl., 1787, I, 292, is of undoubted pertinence, and antedates *Scolopax major* Gmelin by one year. — HARRY C. OBERHOLSER, *Washington D. C.*

**Sexual Difference in Size of the Pectoral Sandpiper (*Tringa maculata*).**—I have for a number of summers noticed that the local shore bird gunners at Newport and Jamestown, R. I., speak of two sizes of Pectoral Sandpipers or, as they call the bird, Kreikers. They go so far as not only to say this is a big or little Kreiker after the bird is in hand, but say here comes a big or little one as the bird is seen flying toward the blind. I have just examined a large series, fifty specimens, from throughout the range of the species including both spring and autumn birds, in regard to this point of size and find that twenty-five females average: Wing, 4.95; tarsus, 1.05; and bill, 1.07; and twenty-five males: Wing, 5.45; tarsus, 1.11; bill, 1.12; or, that in the males the wing averages .50, the tarsus, .06, and the bill .05 larger than in the females. Mr. H. B. Bigelow, who has taken a great number of these birds, calls my attention to the fact that the little and big, that is females and males, flock together and that the little birds always appear in the autumn a week or so before the big ones; the latter has not been my experience. I cannot find a manual

that mentions any difference in the size of the sexes of this species and therefore believe it worthy of note.—REGINALD HEBER HOWE, JR.,  
*Longwood, Mass.*

**The 1898 Migration of the Golden Plover (*Charadrius dominicus*) and Eskimo Curlew (*Numenius borealis*) in Massachusetts.**—I have little to communicate this year regarding the movements of these birds going south. Their scarcity here for a number of years past is most discouraging. During the migrating period weather favorable for their landing occurred several times, notwithstanding which only scattering birds have been noted. Personally I have not seen any flying. As far as I am aware the first Golden Plovers seen on Nantucket this season were four birds on August 12. On August 18, a flock containing about twenty-five birds, was reported to have been seen, two of which were said to be Eskimo Curlews. (As far as I know these two birds were the only ones seen during the entire season.) On August 28, three Golden Plovers were seen at the extreme west end of Nantucket Island, one of which was killed. On September 1, twelve were seen flying south on migration; on September 12, wind northeast and cold, a flock of Plovers estimated to contain sixty birds, were said to have been seen at the north side of Nantucket. On this same date eleven Plovers were killed from a flock of sixteen on Tuckernuck Island. These birds were sent to me; ten of them were young, the other was an adult. On September 15 seven young Plovers were seen at the eastern end of Nantucket, two of which were shot. On September 16, thirteen young birds were shot at the eastern end of the island. On Marthas Vineyard I have heard of but two Plovers being taken, one a young bird too emaciated to eat; no Eskimo Curlew seen. I have made enquiry of several of the large game dealers in Faneuil Hall Market, Boston, and have only learned of a stray Golden Plover or so, and not any Eskimo Curlew. The spring shooting of both these birds in the West, as also of the Bartramian Sandpipers, is to be greatly deplored.—GEORGE H. MACKAY, *Nantucket, Mass.*

**Hybrid Grouse.**—A hybrid *Dendragapus obscurus fuliginosus* X *Phasianus torquatus* was recently shot near this city and is at present on exhibition in one of the local gun stores. I could gain very little information as to the history of the specimen, save that it was alone, and was regarded as a freak, of more or less common occurrence. The bird was evidently a young male of the year, and had just begun to take on the fall garb, traces of which show through the young plumage. Above the bird shows the Grouse parentage more strongly than the Pheasant, the plumage being slaty black, somewhat barred with gray and buffy. Tail slaty, central feathers mottled, and lateral more or less edged with grayish brown. Central rectrices tipped with same. The tail is longer than in *Dendragapus*, and the central feathers show some tendency to extend

beyond the rest, and all are similar in shape to those of the Grouse, though showing the Pheasant character in being much narrower at the ends.

Below the characters of *Phasianus* are more pronounced. The chin, throat and upper neck are white, lower neck and breast black, sides buffy. The bare space about the eye is somewhat restricted, but similar to that in the young Pheasant. Tarsus about midway in length between the two genera, feathered for about three quarters of an inch below the tibia with whitish slaty. The spurs are present as small knobs only.

The bird being mounted, measurement was difficult, but it had every appearance of being larger than either of its parents.

Since writing the above I have learned of three other specimens, all similar to the one above described. Though I do not know the locality from which two of them came, the third, which was shot at Salem, could not have been from the same brood. All of these four specimens were shot within the last two months (October and November, 1898), and the report that such crosses are not uncommon would seem to have some foundation. The imported Pheasant often crosses with domestic fowls. — A. W. ANTHONY, *Portland, Oregon.*

**The Number of Rectrices in Grouse.** — In my recent paper on the Feather-tracts of North American Grouse and Quail (Proc. U. S. Nat. Mus., XXI, pp. 641-653), under the genus *Lagopus*, I made the statement that the rectrices are always 18. Mr. Manly Hardy of Brewer, Maine, has very kindly written me that his experience proves the statement to be an error. He says that in the last 20 years he has shot 15 or 20 Ruffed Grouse having 20 rectrices, and, he adds, "I have in every case found those having 20 rectrices to be exceptionally large males. While I cannot prove it, still it is my belief that none have this added pair until they are several years old. I well remember shooting three old 'drummers' in one afternoon in November, two of which had 20 tail-feathers. . . . One weighed 31 and the other 32 ounces. . . . Old cocks usually weigh from 24 to 26 ounces." It seems to me that these facts are of great importance in helping us to decide whether the Gallinæ with 12 rectrices are in that respect nearer the ancestral form than those with a larger number. At least they indicate that the number of rectrices may be *increased*, as well as *decreased*, and admit the possibility that increase in number of rectrices may be a form of specialization. — HUBERT LYMAN CLARK, *Amherst, Mass.*

**The Turkey Vulture (*Cathartes aura*) in Somerville, Mass.** — Mr. F. H. Hosmer (who assures me that he knows the bird well) informs me that he saw three Turkey Buzzards, very high up in the air, in Somerville, Mass., on Sept. 25, 1898. They were headed south. On the 24th strong southwest winds prevailed in this vicinity, previous to which there had been high winds at the south. — GEORGE H. MACKAY, *Nantucket, Mass.*

**Black Gyrfalcon** (*Falco rusticolus obsoletus*) in Maine. — A fine female Black Gryfalcon was shot in this city on Dec. 21, 1898. The bird was seen in pursuit of a domestic pigeon by Adrian De Costa, who went to his house for his gun and shot the specimen, which showed no fear, and appeared to entirely disregard his presence. Mr. De Costa sold the bird to S. L. Crosby, the taxidermist, from whom I obtained it for my collection. — HARRY MERRILL, *Bangor, Maine*.

**The Specific Name of *Falco regulus*.** — As the Merlin is included in the list of North American birds, although only by reason of accidental occurrence in Greenland, it seems advisable again to call attention to the fact that *regulus* is not its earliest specific title. Indeed *regulus* is antedated by two other names, — *Falco æsalon* Tunstall (Orn. Brit., 1771, p. 1) and *Accipiter merillus* Gerini (Orn. Meth. Dig., 1767, I, 51, pll. xviii, xix), by the latter of which it apparently must be supplanted. This has already been pointed out by Mr. Seebohm (Hist. Brit. Birds, I, 34); as well as more recently by Dr. Prazák (Journ. f. Ornith., 1898, 157), who treats the subject in some detail; and although it has not been possible in the present connection to verify the reference to Gerini, it seems almost certain that his name will have to be accepted, and the species stand as *Falco merillus*. — HARRY C. OBERHOLSER, *Washington, D. C.*

**Habits of the Blue Jay** (*Cyanocitta cristata*). — Under this title, Mr. Fred H. Kennard recorded an interesting note in 'The Auk' for July, 1898, page 269. It must be generally acknowledged that the nesting site described is very unusual, but strange enough, my attention was called last June to a nest of this Jay, built under a piazza roof of an occupied dwelling, placed on the capitol of a pillar, and among the stems of a Wisteria vine, almost exactly as described by Mr. Kennard. I am indebted to my young friend, Flint Drew, who lived at the house in Highland Park, Ill., for giving me the opportunity of examining the nest, which at that time contained young.

As the general habits of the Massachusetts and Illinois Jays differ very materially, and as our bird is more domestic, and lives near the haunts of man, it would not be so unusual to find their nests in such locations, although this is the first instance which now comes to my notice. — RUTHVEN DEANE, *Chicago, Ill.*

**An Unusual Set of Song Sparrow's Eggs.** — On June 28, 1898, I found a nest of *Melospiza fasciata* at Beverly Farms, Mass., containing eight eggs. They seemed to belong in two sets of four, distinguishable by a slight difference in color and markings. Incubation had begun in some eggs of each kind. — GEO. C. SHATTUCK, *Boston, Mass.*

**The Names of the Song Sparrows.** — The change of a well established scientific name is always to be deplored, and particularly when, as in the

present case, the alteration in a specific term makes necessary a corresponding correction throughout a long list of subspecies. Under our rules of nomenclature, however, there seems no doubt of the untenability of *Melospiza fasciata*; since *Fringilla fasciata* Gmelin (Syst. Nat., 1788, I, 922) used for the Song Sparrow, is preoccupied by *Fringilla fasciata* Müller (Syst. Nat., Anhang, 1776, 165), which is a synonym of *Spinus pinus*. The only available name for the eastern Song Sparrow is *Fringilla melodia* Wilson (Am. Orn., 1810, II, 125, pl. XVI, fig. 4), and the species consequently should be called *Melospiza melodia*.

*Fringilla guttata* Nuttall (Man. Orn., ed. 2, 1840, I, 581), which is now *Melospiza fasciata guttata*, is debarred by *Fringilla guttata* Vieillot (Nouv. Dict. d'Hist. Nat., 1817, XII, 233), for an Australian Weaver-bird. As the Rusty Song Sparrow seems to have no other name, it may be called *Melospiza melodia morphna*.

The Song Sparrows will then stand as follows:

*Melospiza melodia melodia* (Wilson).

*Melospiza melodia fullax* (Baird).

*Melospiza melodia montana* (Henshaw).

*Melospiza melodia heermanni* (Baird).

*Melospiza melodia samuelis* (Baird).

*Melospiza melodia morphna* Oberholser.

*Melospiza melodia rufina* (Bonaparte).

*Melospiza melodia rivularis* (Bryant).

*Melospiza melodia graminea* (Townsend).

*Melospiza melodia clementæ* (Townsend).

*Melospiza melodia cooperi* (Ridgway).

*Melospiza melodia pusillula* (Ridgway).

*Melospiza melodia caurina* (Ridgway).

*Melospiza melodia mexicana* Ridgway.

*Melospiza melodia adusta* (Nelson).

*Melospiza melodia goldmani* (Nelson).—HARRY C. OBERHOLSER, Washington, D. C.

On the name *Xenocichla*.—Of late years the term *Xenocichla* has been in quite general use for a group of Ethiopian Bulbuls, having as its type the *Dasycephala syndactyla* of Swainson. *Xenocichla* was founded by Hartlaub in his 'Orn. Westafricas,' 1857, p. 86, but in the list of additions and corrections on p. 272, the name is noted as being equivalent to *Bleda* Bonap. The exact place of publication of Bonaparte's name seems to have puzzled recent ornithologists, and we find it quoted at second hand and without date in Waterhouse's 'Index' and Sharpe's 'Catalogue of Birds.' The proper reference is Rev. et Mag. de Zool., Feb. 1857, 50, which antedates Hartlaub's work by at least two months. The type being the same in both cases, *Xenocichla* becomes a perfect synonym of *Bleda*, which should henceforth be used. The species of the genus, as recently restricted by Shelley, are *Bleda syndactyla* (Swains.),

*B. poliocephala* (Reichenow), *B. xavieri* (Oust.), *B. notata* (Cass.), *B. eximia* (Hartl.), and *B. canicapilla* (Hartl.).—CHAS. W. RICHMOND, Washington, D. C.

**Barn Swallows** (*Hirundo erythrogastra*).—Within a few yards of the house occupied by Mr. John R. Sandsbury during the time he is caring for the Terns on Muskeget Island, and where I make my headquarters when visiting there, is an old shed or boathouse which has several apertures. This shed has been used as a nesting place for the past six years by apparently the same pair of Barn Swallows. At my request Mr. S. made a few notes on these birds, which arrived this year (1898) on May 29. It is their custom to repair the old nest, they never having built any since the first one. Four young birds were hatched this season. The old birds would occasionally fly into the sitting-room of the house, but were always frightened on getting inside. When I was visiting Muskeget this summer (July 2-5, 1898), I found, in addition to the old pair of birds, still another pair, apparently birds of last year, assisting in feeding the four young ones in the nest. This they continued to do up to July 10, the date on which the young left the nest. On this date they were all flying about together, the young going at intervals to the nest to rest. On July 11, there were only the two original old birds and the four young ones, and they remained around until July 19, the young returning to the nest every night. The young birds were so tame that they would alight on, and even run over Mr. Sandsbury's fingers while he rested his hand upon a beam which was near the nest. They returned occasionally up to August 1, but were not so tame, alighting on top of the shed and on the clothes line near the house. At this latter date the group consisted of the two old birds and the four young.—GEORGE H. MACKAY, Nantucket, Mass.

**Another Example of Curious Nesting of the American Redstart.**—Mr. Verdi Burtch, in the October Auk, 1898, recorded a curious example of the American Redstart's nesting, and having had a somewhat similar experience, it may be of interest to record it.

June 3, 1898, I had been collecting about a swamp in the vicinity of Dorchester, Mass., and at noon sought the shade of a wood lot near. A female Redstart (*Setophaga ruticilla*) at once attracted my attention by her queer ways. I retired for a short distance and the bird settled upon a Vireo's nest, which was situated four and a half feet above the ground in a sapling. It contained five Redstart eggs. One of these was entirely buried beneath the others, in a thick lining of horse hair. The yolk of this egg had settled and hardened. The other four were fresh.

As numbers of Redstarts' eggs are annually stolen by boys from this wood, it may be possible that the following theory accounts for this strange thing. An incomplete set of Redstart eggs was taken; the female laid in the Vireo nest during the absence of the owners rather than deposit



her egg upon the ground. The Vireos deserted, and the Redstarts liking the nest lined it up with the usual material chosen in this locality and retained the nest as their own. The nest, I think, was the property of a pair of Yellow-throated Vireos (*Vireo flavifrons*) which I had often observed about. The nest and eggs are now in the collection of Mr. Brewster. — FRANCIS J. BIRTWELL, *Dorchester, Mass.*

*Certhia familiaris americana*, not *Certhia f. fusca*! — Dr. Coues has recently sought (Auk, April, 1897, XIV, 216) to resurrect the name *Certhia fusca* Barton (Fragments Nat. Hist. Penn., 1799, 11) and to establish it as the proper designation for the common Brown Creeper of eastern North America. His proposition unfortunately found favor with the A.O.U. Committee, and in the Ninth Supplement to the Check-List (Auk, Jan., 1899, XVI, 126) Barton's name supersedes the long-current *americana*. But *Certhia fusca* Barton, 1799, is preoccupied by *Certhia fusca* Gmelin, 1788 (Syst. Nat. I, 472) and therefore untenable. The next available name is apparently *Certhia americana* Bonaparte (Geog. & Comp. List, 1838, 11), so that the American Brown Creeper must be called, as heretofore, *Certhia familiaris americana*. — HARRY C. OBERHOLSER, *Washington, D. C.*

The Second Reference for *Anorthura hiemalis pacifica*. — In the Ninth Supplement to the A. O. U. Check-List (Auk, Jan., 1899, XVI, 125) the authority for the combination *Anorthura hiemalis pacifica* is given as Oberholser, Proc. U. S. Nat. Mus., Nov. 19, 1898, XXI, 421. This is not correct. The proper citation seems to be Ridgway, Proc. U. S. Nat. Mus., June 30, 1883, VI, 94. — HARRY C. OBERHOLSER, *Washington, D. C.*

*Piranga rubra* and *Carpodacus mexicanus frontalis* Preoccupied? — The change of *Dendroica cærulea* to *Dendroica rara* (Ridgway, Auk, Jan., 1897, XIV, 97), which was promptly accepted by the A. O. U. Committee, involves an interpretation of Canon XXXIII of the A. O. U. Code of Nomenclature to which little if any attention seems to have been called. It appears advisable at the present time to raise this question, inasmuch as it affects the validity of some other current names; and this the more as in regard to it there seems to be neither unanimity of opinion nor uniformity of practice. Briefly stated, it is this: in considering the tenability of specific names, so far as preoccupation is concerned, shall any account be taken of homonyms which are mere combinations, *i. e.*, not original descriptions? To illustrate: *Motacilla cærulea* of Linnæus, 1766, was called *Sylvia cærulea* by Latham in 1790, — evidently a simple transfer of Linnæus's species to another genus. Now, does this *Sylvia cærulea* of Latham, 1790, preclude the use of *Sylvia cærulea* Wilson, 1810, for another and widely different species, the former being now a *Poliophtila*, the latter a *Dendroica*? Canon XXXIII is apparently quite explicit

upon this point, its text being as follows: "...a specific or subspecific name is to be changed when it has been applied to some other species of the same genus, or used previously in combination with the same generic name." The phrase, "or used previously in combination with the same generic name," seems to leave no doubt of its meaning; and a strictly literal interpretation of this clause will treat alike all combinations, whether or not they happen to be those of original descriptions.

Such being the case, there are two names in our North American List which must be changed. The first of these, *Piranga rubra*, for the Summer Tanager, is untenable because *Piranga rubra* was previously used by Vieillot, as well as by many succeeding authors, for the species now known as *Piranga erythromelas*. The rejection of *Piranga rubra* for the Summer Tanager permits its employment for the Scarlet Tanager; the former then becoming *Piranga æstiva*. This is rather a fortunate circumstance, for these two birds will thus bear the names so long in use before the publication of the first edition of the A. O. U. Check-List.

The specific term of *Carpodacus mexicanus frontalis* (*Fringilla frontalis* Say, Long's Exped. to Rocky Mts., 1824, II, 40) must give way on account of *Fringilla frontalis* Vieillot (Nouv. Dict. d'Hist. Nat. 1817, XII, 181), which is a synonym of *Sporopipes frontalis* (Daudin). The next available name seems to be *Carpodacus obscurus* McCall (Proc. Acad. Nat. Sci. Phila., June, 1851, 220), and the United States form of the House Finch will consequently become *Carpodacus mexicanus obscurus*. — HARRY C. OBERHOLSER, *Washington, D. C.*

**Four Preoccupied Names.** — *Psittacus angustus* Vigors, P. Z. S. (1836), Jan. 16, 1837, 80, for the Imperial Parrot of Dominica, is preoccupied by *Psittacus angustus* Shaw, Mus. Lever., 1792, 59, pl. 2. This will necessitate a new name for *Amazona angusta* (Vigors), which may be called *Amazona imperialis*, this name having stood for several years in Mr. Ridgway's MSS.

*Pachyrhamphus similis* was first used by Cherrie for a Nicaraguan Becard (Proc. U. S. Nat. Mus., XIV, 1891, 343) and its subsequent use by Mr. Salvin for a South American species (Novit. Zool., II, 1895, 13) renders the latter open to a new name. It may be called *Pachyrhamphus salvini*.

*Blax*, lately proposed by Reichenow (Ornith. Monats., II, 1894, 126) for an African Barbet, is preoccupied by two or three genera of the same name in insects (Thomson, 1860; Loew, 1872, etc.). It is proposed to use as a substitute *Blacops*,<sup>1</sup> with a single species, *Blacops gymnophthalmus* (Reichenow).

*Bocagia* of Shelley (Bull. Brit. Orn. Club, XVIII, May 26, 1894, xliii), for two species of African Shrikes, is untenable, there being a *Bocageia*

<sup>1</sup> Βλαξ, and ὠψ.

Girard, Journ. Soc. Lisboa, III, 1893, 100, for a genus of Mollusks. Capt. Shelley's genus may be renamed *Antichromus*,<sup>1</sup> the two species being *Antichromus anchitæ* (Bocage), and *A. minutus* (Hartl.).—CHAS. W. RICHMOND, *Washington, D. C.*

**New and Rare Birds in Kansas.**—On June 12, 1898, Mr. R. Matthews, of Wichita, while enjoying an outing along the banks of the Arkansas River, some miles south of the city of Wichita, captured a specimen of Chuck-will's-widow, *Antrostomus carolinensis*. There is no doubt as to the identity, which was confirmed by Prof. Snow of Lawrence, to whom the specimen was submitted. This is the first record for the State, although the late Col. Goss and Prof. Popenoe were both confident that they had heard the notes of this bird.<sup>2</sup>

On August 16, 1898, Mr. F. E. Forbes of Topeka captured a fine male specimen of the Turnstone, *Arenaria interpres*, on the Kansas River near that place. The specimen was found alone and is an addition to the Kansas list.

About the middle of January, 1899, Prof. E. A. Popenoe of Berrytown, near Topeka, shot a pair of Bohemian Waxwings (*Ampelis garrulus*) from a flock of four. They were in company with some Cedar Waxwings, feeding on the berries of the ordinary red cedar. These are the first of these birds noted in the state for eighteen years; and there are only three other authentic records. They were previously taken at Fort Riley, by Dr. Hammond; at Ottawa, by Wm. Wheeler; and at Manhattan, by the writer.—D. E. LANTZ, *Chapman, Kan.*

**More New Birds for Colorado.**—*Astragalinus psaltria mexicanus*. A Goldfinch was shot near the city of Denver during the summer of 1888 by Mr. A. T. Allen, a taxidermist. He considered the bird to be *mexicanus*, and judging it to be out of its ordinary summer home he preserved the specimen. His identification has lately been confirmed by Prof. J. A. Allen who says that the specimen is not quite typical, but much nearer this form than any other. It is of course an accidental occurrence, as the species belongs in southern Texas and southward.

*Branta canadensis minima*. A typical specimen of this subspecies was shot April 10, 1898, by Mr. John F. Campion on a small lake near Loveland, Colorado. He presented it to the State Natural History

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<sup>1</sup>Ἀντί and χροῖμα.

[<sup>2</sup> The head and wings of a female specimen of this species, taken at Wichita, Kansas, in 1898 (exact date not stated), were received recently at the American Museum of Natural History, New York, for identification, from Prof. L. L. Dyche, of the Kansas University. This adds a second authentic record for the Chuck-wills-widow in Kansas.—J. A. ALLEN.]

Society and it is now mounted in their collection at the State Capitol in Denver.

*Junco montanus*.—This new species was described by Mr. Ridgway about a year ago. He writes: "In our somewhat extensive series of *Junco montanus*, I find only one specimen from Colorado. This is a female, No. 109,943, U. S. N. M., collected at Pueblo, Oct. 29, 1886, by C. W. Beckham. There are several examples from New Mexico and Arizona; one from Fort Clark, Texas, two from El Paso, and one from the Sierra de los Patagone, Mexico. All are fall and winter birds."—W. W. COOK, *Fort Collins, Col.*

**Some Additional New Mexican Birds.**—In 'The Auk,' for October, 1898, Mr. W. I. Mitchell gives a list of the birds found by him in San Miguel County, New Mexico, during the summer of 1898. I spent about four months each summer in 1896 and 1897 at Fort Bayard, New Mexico, about 180 miles west and 200 miles south of where Mr. Mitchell conducted his observations, and give below a list of the birds found there which were not found by Mr. Mitchell in the vicinity of Las Vegas. These lists will tend to show that the boundary line of the range of some of the species mentioned comes between the two localities. The time I spent in New Mexico during the two summers ranged from the end of May to the middle of November, so that I was a little late for the breeding season, and it is probable that many of the birds which I do not give as breeding are really breeders in that locality.

The military reservation of Fort Bayard is a square, four miles each way, lying between the Black Range and the Santa Rita Mountains, and has an elevation of 6700 feet. The country is hilly and has no streams so large but what they dry up during the dry season, which lasts from September until July. Eighteen miles from the post is the Mimbres River. The climate and vegetation are the same as that described by Mr. Mitchell.

1. *Callipepla squamata*. SCALED PARTRIDGE.—Abundant, staying especially in the patches of cactus. Breeds, and I was told it is resident.
2. *Haliaeetus leucocephalus*. BALD EAGLE.—Rare.
3. *Falco sparverius deserticolus*. DESERT SPARROW HAWK.—Fairly common, replacing the Sparrow Hawk, of which I saw none.
4. *Geococcyx californianus*. ROADRUNNER.—Abundant, feeding principally on insects. Found breeding late in May.
5. *Dryobates villosus hyloscopus*.—Fairly common wherever the trees are of a large size.
6. *Dryobates scalaris bairdi*. TEXAN WOODPECKER.—Moderately common.
7. *Anrostomus vociferus macromystax*. STEPHENS'S WHIP-POOR-WILL.—Uncommon. Found them breeding the middle of July, laying two eggs on the bare ground.

8. *Tyrannus vociferans*. CASSIN'S KINGBIRD. — Very abundant, taking the place of the Kingbird of the East, but not so pugnacious as the latter. Breeds, and after the nesting season was over they used to gather in some cottonwood trees near the house about dusk, and keep up a continuous shrieking, calling, and fighting until long after dark. Probably raises two broods a year.

9. *Contopus richardsonii*. WESTERN WOOD PEWEE. — Fairly common. Breeds, and while nesting does not hesitate to attack anything venturing in the neighborhood of its nest.

10. *Icterus parisorum*. SCOTT'S ORIOLE. — Rare; only one specimen taken, but I thought I saw it again.

11. *Spizella socialis*. CHIPPING SPARROW. — A few of these came in the fall with the flocks of other Sparrows that arrived then.

12. *Junco hyemalis shufeldti*. SCHUFELDT'S JUNCO. — These became common in flocks towards the end of October and were sometimes associated with the other Sparrows.

13. *Zonotrichia leucophrys intermedia*. INTERMEDIATE SPARROW. — Uncommon. These also appeared in the fall.

14. *Hirundo erythrogaster*. BARN SWALLOW. — Abundant where there were suitable places for it to breed. Found them nesting June 1.

15. *Lanius ludovicianus excubitorides*. WHITE-RUMPED SHRIKE. — Common and probably breeding.

16. *Harporhynchus curvirostris*. CURVE-BILLED THRASHER. — Abundant and breeds, being very fond of the cactus for a nesting site, and probably raising two broods a year. This bird is a sweet songster and is often kept as a cage-bird.

17. *Harporhynchus crissalis*. CRISSAL THRASHER. — Rare. I saw but few of them and principally in the fall.

18. *Parus inornatus griseus*. GRAY TITMOUSE. — Fairly common, singly and in pairs.

19. *Psaltirparus plumbeus*. LEAD-COLORED BUSH-TIT. — Common, and found generally in flocks in the groves of small pines and firs. More noticeable in the fall.

Mr. Mitchell speaks of *Cyanocitta stelleri macrolopha* as being much more common than *Aphelocoma woodhousei*. Where I was it was just the opposite, as *A. woodhousei* was very common and breeding. — SIDNEY S. WILSON, *St. Joseph, Mo.*

**Notes from Rhode Island.** — The following records seem to me worthy of publication: —

*Melanerpes erythrocephalus*. RED-HEADED WOODPECKER. — At Jamestown, Conanicut Island, on September, 1898, I took a young male, and in the Newport Historical Society's Collection there is a young bird, sex not given, that was taken in the same locality in October, 1892, by Amon Parmenter.

**Lanius ludovicianus (migrans).**—On August 29, 1898, Master LeRoy King took a Shrike on Indian Ave., Newport, and brought the specimen to Edward Sturtevant, Esq., through whose kindness it finally reached me for identification. I referred the bird directly to Mr. William Palmer's new subspecies *migrans* of *Lanius ludovicianus*, described in 'The Auk' (Vol. XV, No. 3, 244), and forwarded the specimen to him for his examination. The bird is an immature female and measured by Mr. Palmer's measurement (taken from skin), wing, 3.85; tail, 3.60; culmen, .53; tarsus, 1.12. Mr. Palmer referred the bird to his subspecies and drew attention to some points I had already noted, *viz.*, first plumage feathers on head, back, and wing-coverts and the growing out of a new tail-feather, either to replace moult or loss. For the present we must call the bird, I suppose, *Lanius ludovicianus excubitorides*.

**Numenius longirostris.** LONG-BILLED CURLEW.—At Jamestown on September 9, 1897, a single bird, sex unknown, was taken by Thomas R. Stetson on the edge of Round Swamp. The bird I obtained and is now in the collection of Mr. William Brewster, Cambridge, Mass.

**Ammodramus princeps.** IPSWICH SPARROW.—Among the dunes back of the first and second beach at Newport and Middletown this species winters not uncommonly.—REGINALD HEBER HOWE, JR., *Longwood, Mass.*

**Notes on Long Island Birds.**—The following data include observations of some birds not before referred to by the writer, while others have been included here on the ground of further acquaintanceship, or for other reasons.

**Larus leucopterus** (or *kumlieni*). On March 8, 1898, a Gull was shot by John Tiernan of Rockaway Beach while he was lying in a small boat about five miles off shore stooling for Old Squaw Ducks. On the following day while at the beach, I noticed this Gull hanging on the awning frame of Tiernan's hotel. The light colored (almost white) primaries caught my attention at once, and I secured the bird. It is an immature male; much smaller than *L. glaucus*, and its rather dark coloration I found puzzling. Through the kindness of Mr. Walter Deane of Cambridge, Mass., the skin was examined by Mr. William Brewster who named it *L. leucopterus*. Mr. Brewster is inclined to regard the phase of plumage represented by the present specimen as belonging to that of the immature *L. kumlieni*, the status of which, as yet, has not been determined. The Iceland Gull has been rarely taken on Long Island. Giraud makes no mention of the species, nor is it included in Mr. Lawrence's 'Catalogue of Birds.' It is stated in Chapman's 'Birds of Eastern North America' to be an autumnal visitant in winter.

**Sterna caspia.** The Caspian Tern appears to occur on our coast regularly each autumn, though it is never, I believe, common. On May 12, 1898, I received two adult males from Mr. Andrew Chichester of Amityville, Long Island, who had shot them on the South Bay the preceding

day, together with one other specimen, which was given by him to a local taxidermist, and which I saw later. The sex of the latter bird was undetermined. Mr. Chapman believes these to be the first spring records for this vicinity. Mr. Dutcher, writing me in regard to this species, says they constitute the first record of this species occurring here in spring. In the autumn of this year, at the same place, September 3, I met with two more specimens; one, an immature female, which was shot, and an adult bird. Mr. William Dutcher informs me that he has always seen the young accompanied in this way by an adult and never alone.

*Aythya collaris*. The Ring-necked Duck has been so infrequently recorded from Long Island that it is well worthy of mention. The gunner above mentioned sent me this specimen, a male, which he believed to be a "cross between a Red-head and a Broad-bill." He had "never seen one like it before," and consequently it must be rare on Long Island, as during his long experience as a gunner in the Great South Bay he has met with many rare, as well as the ordinary, species which frequent this famous resort of water-fowl. The bird came alone to the decoys.

*Tringa bairdii*. While on a visit to Shinnecock Bay on Oct. 31, 1894, a number of Snipes were seen and secured, notably White-rumped Sandpipers. This specimen, among others, was labeled as such, but not without some misgivings. Only recently it was more critically examined and found to be *T. bairdii*. Mr. Arthur H. Howell, who was at the same place when the bird was shot, recently recalled to my mind the fact that the bird was alone, on a sandbar, when shot. The bird was not very active, and it is possible may have been previously wounded. Mr. N. T. Lawrence has obtained three or more specimens from Long Island. The species is not included by Giraud in 'The Birds of Long Island.'

*Ereunetes occidentalis*. In the fall of 1897, the Western Semipalmated Sandpiper was abundant on Long Island. Besides three or more specimens from Shinnecock Bay, collected by Mr. Howell, it was met with by Mr. H. C. Burton on the South Bay in July and by the writer during the same season (once each) on both the Great South Bay and (August 28) on Jamaica Bay.

*Alauda arvensis*. The English Skylark is at present firmly established as a Long Island resident. Between Flatlands and Holy Cross Cemetery, and to the east of the latter, many are to be seen and heard. On March 28, 1898, while on the Neck Road, I heard for the first time the twittering, *burring*, continuously sustained song of this species and saw it rising gradually on fluttering wings up into the blue ether. At a later date one was heard singing continuously for eight minutes while in the air and for two minutes more *after alighting on the ground*. They were neither seen nor heard in September and October, though doubtless they might have been at suitable times; namely, early in the morning or in the evening. Several were heard and seen at the same time in the locality indicated above. It is likely they will later be found at other points on Long Island.

**Sturnus vulgaris.** About a mile in a straight line from the colony of Skylarks, I first saw the European Starling, where it was afterward seen repeatedly. Near Kensington Station someone within the present year has placed in a large tree several bird boxes, which are occupied by the Starlings.

The tower of the Boys' High School in Brooklyn noted in the article referred to as occupied by these birds, still retains its attractions for them. This was probably the original nesting colony on Long Island. Another colony now occupies the steeple of a church at Bedford Avenue and Madison Street. At several points in the environs of Brooklyn the Starlings have been seen, where they were evidently visiting for the purpose of obtaining food, while at various points in the city itself they are commonly observed.

**Ammodramus sandwichensis savanna.**—The Savanna Sparrow has been found on Long Island in summer, but not so far west I believe as the following record. At Garden City 17th July, 1897, an adult male in worn breeding plumage was found in a locality where many Grasshopper Sparrows were resident. Mr. Oberholser considers this an interesting discovery and at his suggestion it is made a matter of record. Mr. Wm. Dutcher has recorded this species from Long Island in summer. It is also a winter bird on Long Island. The writer met with a specimen Jan. 30, 1895, at Flatbush, L. I.

**Contopus borealis.** The Olive-sided Flycatchers were seen in limited numbers in the early autumn of 1896 in Brooklyn (Auk, XIV, p. 99). They have been observed since in both 1897 and 1898, single specimens having been secured on the following dates: September 25, 1897, an immature female, and August 27, 1898, an adult male. It should be considered, I think, a regular and not uncommon autumn migrant for Long Island.

**Empidonax flaviventris.** The Yellow-bellied Flycatcher was first described in 1843 by Wm. M. and S. F. Baird as *Tyrannula flaviventris* in Pr. Ac. Nat. Sc. Phil., I, 283. Giraud makes no mention of the species in 'The Birds of Long Island,' published in 1844, though it had been separated and described, as above, in the year preceding the issue of his work. It is a matter of interest to note that the first specimen in the series of this species in Prof. Baird's collection was taken on Long Island, being labeled Raynor Sound (South), Long Island, Aug. 4, 1831 (Cat. No. 1951. See U. S. P. R. R. Exp. and Surveys, IX, 1860, p. 199). It seems to occur rather rarely on Long Island in spring, while in the autumn it is certainly not rare. Mr. Dutcher has kindly furnished me with the following data of its occurrence: Aug. 19, 1893, Parkville (Coll. Wm. Dutcher); Sept. 18, 1890, Statue of Liberty, N. Y. Harbor; May 19, 1892, Flatbush (per A. H. Howell); June 10, 1893, Brooklyn (per A. H. H.). The following dates of their occurrence are added from my own notes: May 25, 1897, Parkville; Aug. 27, 1898, do.; Sept. 2, Sheepshead Bay; Sept. 11, 1895, Parkville. The above dates probably cover nearly



the limits of its occurrence on Long Island; namely, May 19 to June 10 and Aug. 4 to Sept. 18. — WM. C. BRAISLIN, M. D., *Brooklyn, N. Y.*

**Some Birds of Unusual Occurrence in Orleans County, N. Y.** — During the past week the writer has accomplished a casual reading of a complete file of 'The Auk', from Vol. I, No. 1 to date, and finds that during the entire fifteen years of its publication it has contained only two items which pertain to the ornithology of this county, and those were of but a paragraph each. Our county has not, however, been so free from rare avian visitors as this sparsity of record would seem to indicate. On the contrary, there have been many occurrences well worthy of mention, although it does seem that no one has taken the pains to have them properly recorded. Permit me now to make mention of some of the most interesting of these, as follows:—

**Colymbus holboelli.** HOLBOELL'S GREBE. — A somewhat ancient record, dating back to May 1, 1873, on which day, Mr. David Bruce of Brockport secured a specimen near Murray. This bird was somewhat above the ordinary in size, measuring twenty-one inches in length.

**Uria lomvia.** BRÜNNICH'S MURRE. — Mr. F. A. Macomber of Murray has a mounted specimen in winter plumage which was brought to him in the first half of March, 1897, having been taken alive by hand, in a famished condition, on the ice of Sandy Creek. My collection contains the mounted head of another individual which was picked up dead from the Lake Ontario shore in the town of Kendall, by Mr. Harry Burnett.

**Rissa tridactyla.** KITTIWAKE. — A mounted specimen in the collection of Mr. O. B. Mitchell of Holley, taken by him on a pond in the town of Clarendon after a heavy storm.

**Sterna caspia.** CASPIAN TERN. — A finely mounted female of this species is in the collection of Mr. David Bruce of Brockport, taken by him in September, 1890, on Lake Ontario, in the town of Kendall.

**Phaethon flavirostris.** YELLOW-BILLED TROPIC BIRD. — The extraordinary occurrence of this very southern bird in our county is recorded by Rev. J. H. Langille in his 'Our Birds in their Haunts,' page 615.

**Branta canadensis hutchinsii.** HUTCHINS'S GOOSE. — A specimen taken at Gaines, about 1888, is now in the possession of Mr. Newell Beekwith of that place.

**Plegadis autumnalis.** GLOSSY IBIS. — An individual of this species was shot in Tonawanda Swamp in May, 1889 and brought to Mr. George H. Hedley of Medina to be mounted.

**Ardea egretta.** AMERICAN EGRET. — Three of these birds wandered into our county in July, 1883, and two of them were shot near Kent on the 27th of that month. One of these is now in the possession of Mr. Edgar Ford of Carlyon, who shot it.

**Nycticorax nycticorax nævius.** — BLACK-CROWNED NIGHT HERON. — The late Alfred Myhill of Medina once took a specimen from a marsh

along the lake shore. The mount is now, with the rest of his collection, in the possession of his father, Mr. William Myhill of the Ridge Road.

**Rallus elegans.** KING RAIL.—About August, 1880, Mr. Milo C. Webster of Knowlesville (now of Buffalo) while out on a hunt in company with Rev. J. H. Langille, shot a King Rail in a marsh on the lake shore in the town of Carlton. Mr. Langille makes mention of this specimen in his 'Our Birds in their Haunts,' page 400.

**Porzana noveboracensis.** YELLOW RAIL.—Two individuals, taken by Mr. F. A. Macomber of Murray near that place, April 21, 1894, and another the following year at about the same time. Two of these specimens are now in his collection,—the third is in the collection of Mr. David Bruce of Brockport.

**Tringa canutus.** KNOT.—A young male of the year was taken on the Lake Ontario shore in the town of Carlton, Sept. 9, 1897, by Mr. Percy Smithe of Medina.

**Tringa fuscicollis.** WHITE-RUMPED SANDPIPER.—Mr. Percy Smithe of Medina secured a male of this species from the lake shore in Carlton, Oct. 16, 1897.

**Tringa bairdii.** BAIRD'S SANDPIPER.—A mounted specimen in my collection marks the first occurrence (so far as I have been able to learn) of this Sandpiper in the western half of New York State. It was taken, together with one other of its kind, Sept. 3, 1895, at "the head of still water," on Oak Orchard Creek (just north of Waterport) by Mr. John Ritenburgh of Gaines. These two specimens slumbered unrecognized, in the possession of Mr. Ritenburgh until Sept., 1897, when they were turned over to Mr. Ernest H. Short. If Mr. Short recognized these birds as *Tringa bairdii*, he made no stir about the matter nor any record of the rare occurrence, disposing of one of them, meanwhile. The other I procured of him, December 2, 1898, and determined its identity forthwith. While these two specimens were remaining unrecognized, others were being taken in our county, were more promptly analyzed and recognized, and a published record made, thereby gaining a priority over these taken three years before.

Mr. J. L. Davison of Lockport, N. Y., while sojourning at Lakeside Park, this county, during the early fall of 1898, secured along the lake shore near that point, five specimens of *Tringa bairdii*, as follows:—Aug. 20, two; Sept. 8, two; Sept. 16, one. I am indebted to Mr. Davison and to Miss Mathilde Schlegel (who mounted them) of East Aurora, N. Y., for complete and detailed data regarding the taking of these additional five Baird's Sandpipers in my own county of Orleans. (See Forest and Stream, Jan. 7, 1899).

**Tryngites subruficollis.** BUFF-BREASTED SANDPIPER.—A finely mounted example is in the collection of Mr. David Bruce of Brockport which was taken in the town of Kendall, "fifteen or sixteen years ago."

Also one was brought to Mr. Ernest H. Short of Gaines for mounting, in the fall of 1897.

**Numenius hudsonicus.** HUDSONIAN CURLEW.—One taken from a flock of Killdeers in September, 1897, near Murray, by Mr. F. A. Macomber of that place. Now in his collection.

**Cathartes aura.** TURKEY VULTURE.—A young male taken in town of Kendall, May 23, 1884. (See Auk, Vol. I, No. 3, July, 1884.) Mr. David Bruce of Brockport now has this specimen. Also an adult male taken in the town of Clarendon, July 18, 1891, and now in the New York State Museum at Albany. (See Auk, Vol. IX, No. 2, April, 1892.)

**Catharistes urubu.** BLACK VULTURE.—An individual of this species was caught in a trap by a farmer residing near Shelby Center, on the 28th of May, 1892, and came under my observation while yet alive.

**Surnia ulula caparoch.** AMERICAN HAWK OWL.—Mr. David Bruce has a specimen in his collection which was taken near Holley a few years ago.

**Empidonax flaviventris.** YELLOW-BELLIED FLYCATCHER.—A mounted female in my collection taken May 26, 1890, at Hulberton by Mr. Jesse Craven. Other county taken specimens (one or two) have come under my observation also.

**Icterus spurius.**—ORCHARD ORIOLE.—“Several from gulch near Holley, in the spring of 1876” (David Bruce). “A pair (♂ and ♀) brought me in June, 1896 (first week) shot near Gaines, possibly would have bred” (Ernest H. Short). I have in my collection a typical nest of this species, taken about August 1, 1898, at Lakeside Park, by Mr. J. L. Davison of Lockport. A tiny bit of egg-shell found hidden beneath the lining of the nest, gave evidence of its occupancy during the past season.

**Coccothraustes vespertinus.** EVENING GROSBEEK.—During the remarkable flight of these birds to the eastward in the winter of 1889-90, several were taken at different points about the county.

**Loxia leucoptera.** WHITE-WINGED CROSSBILL.—A mounted female of this species is in my collection taken at Holley in February, 1888, by Mr. Jesse Craven. Other occurrences of this bird in our county are also reported to me.

**Dendroica palmarum.** PALM WARBLER.—A male example in my collection taken near Holley, May 12, 1888, and other occurrences of this Warbler in the county have been reported. Dr. Jonathan Dwight, Jr., of New York, to whom I recently sent the specimen, seemed surprised that my bird was *palmarum*, as he felt that *D. p. hypochrysea* was the form which should be found here. However, all examples taken in this and adjoining counties of western New York of which I know, seem referable to *palmarum*.

**Icteria virens.** YELLOW-BREASTED CHAT.—On Memorial Day, 1895, near Shelby Center, I saw an individual of this species, using the opera glasses upon it at short range. I was led to the bird by first hearing it pour forth a most indiscriminate medley of all kinds of notes. Also Mr. Fred C. Lusk of Holley took a male in full plumage near that place May

8, 1880, and another occurrence which I have not yet had opportunity to investigate is recently reported to me from the eastern part of the county.

*Sylvania pusilla*. WILSON'S WARBLER. — Two male specimens shot near Gaines and brought in to Mr. Ernest H. Short of that place, May 28, 1897. Now in his collection.

*Parus bicolor*. TUFTED TITMOUSE. — I prize nothing which I have in my collection more highly than I do a fine male of this species, which was taken just south of Holley, March 17, 1889, by Mr. Fred C. Lusk. This bright bird would be a charming addition to our regular avi-fauna, but I know of no other records of its occurrence in this or adjoining counties.

In the foregoing notes, I have only made mention of some of the rarer birds which have been taken in Orleans County, but there yet remain unreported several unusual occurrences for this section which should become matters of record, and which, at some later day perhaps, I may report to your valuable journal. Some of these occurrences are fully as rare as any mentioned above, but as yet lack the authentic and complete corroboration which I hope to attach to them after further investigation. — NEIL F. POSSON, *Medina, N. Y.*

**Late Migrants and Stragglers in Eastern Massachusetts.** — Many birds stayed unusually late in Eastern Massachusetts this autumn, owing very likely to the mild weather which we enjoyed during October and most of November. Bluebirds, Chipping Sparrows and Field Sparrows, which generally disappear in the first week of November, were seen as late as the 13th of that month. The Blackbirds also prolonged their stay longer than usual; I saw a flock of at least thirty Cowbirds in Belmont associated, up to Nov. 13, with over two hundred Red-wings and some Rusty Grackles. The last Cowbird was seen on Nov. 21; on Nov. 13, I saw three Bronzed Grackles. On Nov. 1 Mr. Faxon and I saw a Lincoln's Finch, and on Nov. 5 I saw an immature White-crowned Sparrow. The height of the migration of both of these birds is about Oct. 1, and the latest dates hitherto noted for either are from a week to ten days earlier than those above recorded. On Nov. 3, I saw a Black-throated Green Warbler in Cambridge.

There have been also three interesting stragglers in this vicinity during November. On the 2d of November I found a female Wilson's Blackcap in Belmont; the bird stayed in the same locality till Nov. 20, and uttered when startled a curious wren-like *kek, kek*, which I have never before heard. Believing that the bird would eventually starve or freeze to death, I asked a friend on the 20th to shoot it.

On Nov. 5th I saw a European Goldfinch (*Carduelis*) in Arlington. The bird behaved like any wild bird. On Oct. 26, and again on Nov. 17, I saw in Belmont a Mockingbird. I placed food near the spot where I saw the bird, but have not since seen it. — RALPH HOFFMANN, *Belmont, Mass.*

**Destruction of Birds by the Great Cold Wave of February 13 and 14, 1899.**— The cold wave which struck the coast of South Carolina was the severest recorded for 200 years. On Monday, February 13, the thermometer registered  $14^{\circ}$  above zero, with the ground covered with snow from four to five inches deep on a level, while drifts were two feet deep. This is a remarkable occurrence for the coast region and to be seen scarcely in a lifetime. On Tuesday, at 6.55 A. M., the thermometer registered  $6^{\circ}$  above zero. This excessively cold weather came upon us very suddenly. It was sleeting all day Sunday, February 12, but towards midnight grew suddenly colder, and when morning dawned the whole country was covered with snow. The destruction of bird life caused by this cold wave can scarcely be conceived. To say that Fox Sparrows (*Passerella iliaca*), and Snow birds (*Junco hyemalis*) were frozen to death by the millions is not an exaggerated statement, but a conservative one. There was a tremendous migration of Fox Sparrows on Monday, the 13th, following the coast line of the mainland. They apparently came from the northeast, migrating in a southwesterly direction. Thousands tarried in my yard all day long and swarmed in the piazza, fowl-yard and every place that would afford protection. They would scratch away the snow in order to find a bare place, singing—that is the stronger birds—the whole time, while their companions were freezing by the hundreds. When they were benumbed by the intense cold Boat-tailed Grackles (*Quiscalus major*), and Red-winged Blackbirds (*Agelaius phoeniceus*) would peck them at the base of the skull, killing them and eating them. The stronger Fox Sparrows would also eat their dead companions. It was a most pathetic sight. I caught quantities of Fox Sparrows, Grass Finches, Snowbirds, and Chipping Sparrows and put them into a large cage which I brought into the house and placed before a large fire with the hope of saving them from destruction, but despite this they all died. Very few of these birds were emaciated, and the great majority were fat.

The Woodcock (*Philohela minor*) arrived in countless thousands. Prior to their arrival I had seen but two birds the entire winter. They were everywhere and were completely bewildered. Tens of thousands were killed by would-be sportsmen, and thousands were frozen to death. The great majority were so emaciated that they were practically feathers and of course were unable to withstand the cold. One man killed 200 pairs in a few hours. I shot a dozen birds. Late Tuesday afternoon I easily caught several birds on the snow and put them into a thawed spot on the edge of a swift-running stream in order that they would not perish, but upon going to the place the next morning I found one frozen. These were fearfully emaciated and could scarcely fly. Two birds were killed in Charleston in Broad street. It will be many years before this fine bird can establish itself under the most favorable conditions. The following is a list of birds that I saw which were frozen to death: Fox Sparrow, *Passerella iliaca*; Snowbird, *Junco hyemalis*; Woodcock, *Philohela minor*;

Grass Finch, *Poecetes gramineus*; Savanna Sparrow, *Ammodramus sandwichensis savanna*; Chipping Sparrow, *Spizella socialis*; Song Sparrow, *Melospiza fasciata*; Swamp Sparrow, *Melospiza georgiana*; Blue-headed Vireo, *Vireo solitarius*; Hermit Thrush, *Turdus aonalasckæ pallasii*; Meadowlark, *Sturnella magna*; Mourning Dove, *Zenaidura macroura*; Killdeer, *Agialitis vocifera*; Bluebird, *Sialia sialis*; Catbirds, *Galeoscoptes carolinensis*; Pine Warbler, *Dendroica vigorsii*.

Bluebirds and Pine Warblers were decimated. Mockingbirds, Cardinals, Florida Towhees, Carolina Wrens, and all Woodpeckers escaped. — ARTHUR T. WAYNE, *Mount Pleasant, S. C.*

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## RECENT LITERATURE.

Volume XXVI of the **British Museum Catalogue of Birds**.<sup>1</sup> — Volume XXVI of the British Museum Catalogue of Birds is the last to appear of the twenty-seven volumes constituting this magnificent series, Volume XXVII having been previously issued. The first volume of this great work appeared in June, 1874, the others following at irregular intervals of, in the average, rather less than a year, the last volume having been brought out towards the close of 1898. As a general work on the birds of the world, no preceding treatise from the time of Linnæus to the present day, is at all to be compared with it in point of completeness or in method of treatment. To say that it marks an era in the history of ornithology is only faintly to imply its vast importance.

We learn from the Preface of this last volume, by Sir W. H. Flower, Director of the Natural History Department of the British Museum, that this great undertaking was originally projected by Dr. Albert Günther, his predecessor in the office of Director, "more than twenty-five years

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<sup>1</sup>Catalogue | of the | Platææ, Herodiones, Steganopodes, | Pygopodes, Alcæ, and Impennes | in the | Collection | of the | British Museum. | — (Platææ) Ibises and Spoon-bills | and | Herodiones (Hérons and Storks), | by | R. Bowdler Sharpe. | Steganopodes (Cormorants, Gannets, Frigate-Birds, Tropic- | Birds, and Pelicans), Pygopodes (Divers and Grebes), | Alcæ (Auks), and Impennes (Penguins), | by | W. R. Ogilvie-Grant. | London: | Printed by order of the Trustees. | Sold by | Longmans & Co., 39 Paternoster Row, E. C.; | B. Quaritch, 15 Piccadilly, W.; Dulau & Co., 37 Soho Square, W.; | Kegan Paul, French, Trilbner, & Co., Charing Cross Road, W. C.; | and at the | British Museum (Natural History), Cromwell Road, S. W. | 1898. = Catalogue of the Birds in the British Museum, Vol. XXVI. 8vo, pp. xvii + 687, pll. i-ic, ii, iii, iv, v-vb, vi-viii.

ago.... The publication of the work has therefore been nearly coincident with Dr. Günther's administration of the Zoölogical Department of the Museum. It is to him that the general arrangement and supervision of the work is due, although each contributor has been allowed a considerable latitude in following his own views as to the details of classification and nomenclature.

"It was at first contemplated that Dr. R. Bowdler Sharpe would undertake the whole work, and the first four volumes were completed by him between the years 1872 to 1879. It, however, soon became apparent that continually increasing curatorial duties.... required very much of his attention, and notwithstanding the energy with which he threw himself into the work, it was manifestly impossible for him single-handed to complete the Catalogue within any reasonable time." Consequently the aid of other specialists was invoked to take up certain groups to which they had given special attention, while Dr. Sharpe did not relinquish his labors. "Not only did he materially assist in many of the volumes produced under the names of other authors, but for seven more volumes (making eleven altogether) he is entirely, and for two others he is partly, responsible. Some indication of the amount of his share in the whole work may be gained from the statement that out of 11,548 species described in the Catalogue, 5181 are contained in Dr. Sharpe's portion, and 6367 in those written by the ten other authors."

The other authors are the late Mr. Henry Seebohm, who prepared Vol. V, the family Turdidæ (1881); Dr. Hans Gadow, Vol. VIII, the families Paridæ and Laniidæ, and the Certhiomorphæ (1883), and Vol. IX, the Cinnyrimorphæ (1884); Dr. P. L. Sclater, Vol. XI, the families Cœrebidæ, Tanagridæ, and Icteridæ (1886), Vol. XIV, the Oligomyodæ (1888), Vol. XV, the Tracheophonæ (1890), and part of Vol. XIX (Rhamphastidæ, Galbulidæ, and Bucconidæ); the late Mr. Osbert Salvin, part of Vol. XVI (Upupæ and Trochili) and part of Vol. XXV (Tubinares); Mr. Ernst Hartert, part of Vol. XVI (families Cypselidæ, Caprimulgidæ, Podargidæ, and Steatornithidæ); the late Edward Hargitt, Vol. XVIII, the Picidæ (1890); Capt. G. E. Shelley, part of Vol. XIX (Indicatoridæ, Capitonidæ, Cuculidæ, and Musophagidæ); Count T. Salvadori, Vol. XX, the Psittaci (1891), Vol. XXI, the Columbæ (1893), and Vol. XXVII, the Chenomorphæ, Crypturi, and Ratitæ; W. R. Ogilvie Grant, Vol. XXII the Gallinæ and Allies, and part of Vol. XXVI, the Steganopodes, Pygopodes, Alcæ, and Impennes; Mr. Howard Saunders, part of Vol. XXV, the Gaviæ.

The 'Catalogue' is based upon the immense collection of birds in the British Museum, which has increased from about 35,000 in 1872 to about 400,000 at the present time, supplemented by "all other available material contained in public or private collections, or described in zoölogical literature. It therefore professes to be a complete list of every bird known at the time of the publication of the volume treating of the group to which it belongs. Under the heading of each species is (1) a copious synonymy: references being given to every mention of it which occurs

in standard books or journals. [This is more nearly true of the later volumes than of many of the earlier volumes.] This has been a work of prodigious labour, but it is hoped that, being fairly exhaustive, it has been done once for all, as far as existing literature is concerned. (2) A full description of the external characters of both sexes, and, as far as possible, all stages of plumage. (3) A general account of the habitat of the species. (4) A list of every individual specimen in the Museum Collection, with a statement as to the source from whence it was obtained and its original locality." This high aim has been as nearly reached, at least in many of the volumes, as, in the nature of such things, could be reasonably expected.

The colored illustrations in these twenty-seven volumes represent (in 387 plates) 540 species not before figured, or else only inadequately, the drawings, by Keulemans, being made in almost every case "from the types of the species."

The Preface to Vol. XXVI further states that owing to the vast increase in the collection during the last twenty-five years the earlier volumes "represent a very inadequate idea, both of the present condition of the subject and the contents of the Museum Collection." It is therefore proposed to publish a Supplement, probably in two volumes, "which will contain references to every species described subsequently to the publication of the volume which treats of the group to which it belongs, and also such emendations as the progress of Zoölogy seems to require. When this is published, it will afford a complete list up to date of all known birds, either described in the Catalogue or elsewhere."

We have thus given a sketch of the history, scope, and aims of this great series of volumes,<sup>1</sup> in nearly the words of the Director of the Zoölogical Department of the British Museum. As shown, the plan of the work, and the general scheme of arrangement and classification, were decided upon more than a quarter of a century ago, as doubtless also the leading principles of nomenclature. Hence the twelfth edition of

<sup>1</sup> For notices in this journal of the volumes of the British Museum Catalogue of Birds see, for Vols. I, II, and III, Bull. Nutt. Orn. Club, III, 1878, p. 77-79; Vols. IV, V, and VI, *ibid.*, VIII, 1883, pp. 99-105; Vols. VII and VIII, Auk I, 1884, pp. 277-283; Vol. IX (not reviewed); Vol. X, *ibid.*, II, 1885, pp. 365-368; Vol. XI, *ibid.*, IV, 1887, pp. 149, 150; Vol. XII, *ibid.*, V, 1888, pp. 410-413; Vol. XIII, *ibid.*, VI, 1889, pp. 266-268; Vol. XIV, *ibid.*, VIII, 1891, pp. 90-92; Vol. XV, *ibid.*, VII, 1890, pp. 379, 380; Vols. XVI and XVII, *ibid.*, X, 1893, pp. 66-69; Vol. XVIII, *ibid.*, VIII, 1891, pp. 92-95; Vol. XIX, *ibid.*, IX, 1892, p. 184; Vol. XX, *ibid.*, IX, 1892, pp. 277-279; Vol. XXI, *ibid.*, XI, 1894, pp. 60-62; Vol. XXII, *ibid.*, XI, 1894, pp. 171, 172; Vol. XXIII, *ibid.*, XI, 1894, p. 242; Vol. XXIV, *ibid.*, XIV, 1897, pp. 102-104; Vol. XXV, *ibid.*, XIII, 1896, pp. 160-162; Vol. XXVI, *ibid.*, XVI, 1899, pp. 198-203; Vol. XXVII, *ibid.*, XIII, 1896, pp. 162-164.



Linnæus's 'Systema Naturæ' has been taken as the starting point for binomial nomenclature, and with slight exceptions, strictly adhered to throughout the whole series of volumes, notwithstanding the fact that in recent years the tenth edition of the 'Systema' has become the general starting point. It therefore unhappily follows that in many cases the names, both generic and specific, adopted in the 'Catalogue', are not in harmony with those that must stand, according to the present consensus of opinion on this important point.

Again, the use of trinomials for the designation of subspecies had not become greatly in vogue, at the time the 'Catalogue' was begun, and although several of the authors engaged on this work had adopted them at the time they prepared their respective portions, the original plan of employing binomials for all forms recognized was adhered to to the end. In respect to the '*Scomber scomber* principle', the rule has varied, the different authors having been apparently left to their own inclinations in this matter, with the result that some have retained specific names for the species to which they were originally given when later used as generic names, while some have not, thus giving rise to instability in a large number of names, whatever the ruling may be respecting the '*Scomber scomber* principle.'

A uniform method has been employed in designating type species, namely, by giving the name as it stands under the genus to which it is referred by the author of the 'Catalogue' instead of the full name, generic and specific, given it by its original describer. This is not a serious matter, but one frequently giving rise to some inconvenience if one desires to go over the ground for himself.

Marked improvement in respect to the fullness and character of the bibliographical citations has marked the progress of the work, the later volumes well meeting the most rigid requirements, while the earlier volumes were deficient and variable in point of completeness, and defective as regards the scope of the reference, even generally omitting, in the case of special works, the highly convenient and often important item of date. In other words, the authors have kept well in touch with the improved methods that have characterized in this respect, ornithological literature in general. The last seven or eight volumes are far in advance of most of their predecessors, while some of the later ones leave little to be desired in the way of further improvement.

Passing now to Volume XXVI, it is enough to say, by way of general remark, that in method of treatment and completeness it is equal to the best of the series. It embraces the *Plataleæ* (Ibises and Spoonbills) and *Herodiones* (Herons and Storks), by Dr. Sharpe, and the *Steganopodes* (Cormorants, Gannets, Frigate Birds, Tropic Birds and Pelicans), the *Pygopodes* (Divers and Grebes), the *Alcæ* (Auks), and the *Impennes* (Penguins), by Mr. Ogilvie Grant. The *Plataleæ* number 33 species, with 21 genera, and the *Herodiones*, 120 species with 48 genera; the *Steganopodes* number 66 species, with 6 genera; the *Pygopodes* 52 species,

with 17 genera; the Impennes 17 species with 6 genera. All but ten of the species are represented in the British Museum collection. In the Plataleæ and Herodiones Mr. Sharpe retains the redundancy of genera which has characterized his recent volumes of the 'Catalogue' and his preliminary papers on these two groups, the average being  $1\frac{1}{4}$  species to the genus in the former and  $2\frac{1}{4}$  species to the genus in the latter. On the other hand Mr. Grant is very conservative, the average for the Steganopodes being 11 species to a genus, with 37 in *Phalacrocorax*, under which genus no subgenera are recognized.

As regards North American species, there are many departures from the A. O. U. Check-List through taking Linnaeus's names at 1766 instead of 1758, and ignoring Brisson's genera, and others for other reasons. *Endocimus*, though preoccupied by *Endocima*, in Lepidoptera, is used in preference to *Guara*, the first strictly tenable name for the genus. All of the A. O. U. Check-List subgenera of *Ardea* are given the rank of genera, and in addition, a genus *Leucophoyx* (Sharpe, 1894) is employed for *Ardea candidissima*. Without the author having seen specimens of the South American *Ardea tricolor* it is recognized as specifically distinct from the North American *A. tricolor ruficollis*. On the other hand, *Nycticorax nycticorax naevius* is referred to *N. nycticorax*, and no subspecies are admitted in the *Butorides virescens* group.

*Phalacrocorax urile* (Gm.) becomes *P. bicristatus* Pallas, on the ground apparently that *urile* was originally composite. No subspecies are recognized under *P. pelagicus*, and only one, *cinctatus*, under *P. dilophus*, for the white-crested Pacific coast form, the two eastern forms being referred to *dilophus*, which name, however, gives place to *auritus* Lesson, 1831. While the untenability of *dilophus* (Vieillot *nec* Swainson) is evident, it is not quite so manifest that *auritus*, founded on Vieillot's very unsatisfactory figure of a supposed New Zealand specimen, is the correct substitute; under these circumstances it seems far better to accept *Phalacrocorax floridanus* Aud. (1835) as the proper name for the group. *P. mexicanus* is made a subspecies of the South American *P. vigna* (= *brasiliensis* auct.). The propriety of this change was previously suggested by Mr. Ridgway (Proc. U. S. Nat. Mus., XII, 1889, p. 138).

From what we have already said about the treatment of Brissonian names, we find as a matter of course *Plotus* used in place of *Ankinga*, and Linnaeus at 1766 gives *Colymbus* for the Loons, *Gavia* being disposed of as having "no type"! *Gavia arctica* is not regarded as North American, the North American birds recognized under this name by American writers being referred to *Gavia pacifica*, which latter is made a subspecies of *arctica*.

*Cephus* is treated as a synonym of *Uria*, the Guillemots not being awarded even subgeneric rank. Yet a new genus, *Micruria*, is proposed for two of the species of *Brachyrhamphus*—*B. hypoleucus* and *B. craveri*, the former being the type of the new genus. The name *kittlitsii* Brandt, 1837, is superseded by *brevirostris* Vigors, 1828—perhaps

justly, though it is odd that the type should have been taken at San Blas, Mexico, "August 9," this being on Aleutian Island and Kamchatkan species. *Phaleris* Temminck, 1820, is restored for the Paroquet Auklet in place of *Cyclorhynchus* Kaup, 1829, although Stejneger (Orn. Expl. in Commander Isls., 1855, p. 38) has pretty clearly shown that *Alca pygmaea* Gm. must be regarded as the type of *Phaleris*. But these are mainly points where differences of opinion are liable to occur—we fear for a long time to come.—J. A. A.

**Evans's 'Birds'.<sup>1</sup>**—In a well illustrated volume of some 600 pages Mr. Evans has attempted to give "a short description of the majority of the forms in many of the Families, and of the most typical or important of the innumerable species included in the large Passerine Order." This is preceded by an introductory chapter of some 20 pages on the structural peculiarities of birds, their classification, geographical distribution, migration, etc. Mr. Evans follows Dr. Gadow's scheme of classification, "with some slight modifications." He begins with the Archæornithes and ends with the Passere, the final family of the series being the Fringillidæ. The work being intended as a popular treatise on the Class Aves, the more strictly technical phases of the subject have been avoided, as also the discussion of disputed questions. The work is prepared in a conservative spirit, without attempt at fine writing, and without stating as fact the many theories and conjectures that have received almost unqualified endorsement in some of the recent 'popular' books on birds, bird migration, and kindred subjects. A general account is given of each family, with an enumeration of many of its principal forms, and brief reference to their distribution and characteristic traits. The text is fully illustrated with, for the most part, excellent wood cuts. A large part are admirable figures by Mr. G. E. Lodge, prepared especially for the present work, while others are by Smit, or from other sources, and are thus not unfamiliar through previous use in other connections. The volume as a whole is entitled to high commendation, and will prove of great convenience as a general account of the principal forms of bird life, both recent and extinct.—J. A. A.

**Von Ihering's Birds of San Paulo, Brazil.<sup>2</sup>**—This enumeration of the birds of the State of Sao Paulo is based on the collections of the Museu

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<sup>1</sup> Birds | By A. H. Evans, M. A., Clare College, Cambridge | London | Macmillan and Co., Limited | New York: The Macmillan Company | 1899 | All rights reserved | —8vo, pp. xvi + 635, 2 maps, and 144 text figures. = The Cambridge Natural History, Vol. IX. — Price \$3.50.

<sup>2</sup> As Aves do Estado de S. Paulo. Por. H. von Ihering. Revista do Museu Paulista, Anno III, 1899, pp. 113-476.

Paulista, and on the literature of the subject. The nomenclature is essentially that of the British Museum 'Catalogue of Birds'. The synonymy of the species is given, with a brief mention of their distinctive characteristics and distribution, and the character of their occurrence in Sao Paulo. The number of species recorded as occurring in the State is 590, of which just one half are Passeres. — J. A. A.

**Dearborn's Birds of Belknap and Merrimac Counties, New Hampshire.**<sup>1</sup> — This neatly published list of 175 species is based on the personal experience of the writer during the past ten years, supplemented by other information from reliable observers, duly accredited. Although the list is incomplete, it is evidently trustworthy so far as it goes, and is judiciously annotated. The Loon (*Gavia imber*). Mr. Dearborn states, "has plainly decreased within the last two decades. Twenty years ago they bred every summer at one or more of the ponds which are the headwaters of the Suncook River." They have, however, been so far killed or frightened away by "wanton hunters" that none have nested there of late, though they still breed at Lake Winnepisaukee. The Blue Bird was very scarce in 1895, following their destruction at the south by the severe weather of the previous winter. They were more common in 1896, and in 1897 had nearly reached their normal numbers. "This sudden increase," says Mr. Dearborn, "is rather puzzling, when one considers that ordinarily there is no perceptible increase from year to year." — J. A. A.

**Nash's 'The Birds of Ontario in Relation to Agriculture'**.<sup>2</sup> — The principal groups are briefly reviewed in reference to their influence upon agriculture. The seven pages devoted to the Birds of Prey are based mainly on Dr. Fisher's well known investigations, conducted under the direction of Dr. Merriam for the U. S. Department of Agriculture. The Crows, Jays and Blackbirds are considered at some length, with a verdict that they have little to recommend them from the economic standpoint, their good deeds being in general quite balanced by their evil ones, while the Blue Jay is rather strongly condemned, mainly on account of its fondness for the eggs and young of birds much more useful than itself. The Cow Bird is regarded as a pest, on account of the "terrible destruction" of the small, insectivorous birds it chooses for its foster parents, each Cow

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<sup>1</sup>A | Preliminary List | of the | Birds | of | Belknap and Merrimack Counties | New Hampshire | with Notes | By | Ned Dearborn. | Presented to the Faculty of the New Hampshire College | of Agriculture and the Mechanic Arts as a Thesis | for the Degree of Master of Science, | June, 1898 | — | Durham | New Hampshire College | 1898. — 8vo, pp. 34.

<sup>2</sup>The Birds of Ontario in Relation to Agriculture. By Charles W. Nash. Toronto. 8vo, pp. 32, with 33 half-tone plates, from drawings by the Author. Reprinted from the Report of the Farmers' Institutes of Ontario, 1897-98.

Bird being raised at the expense of a brood of some far more useful species. The European House Sparrow's numerous bad traits are recounted, and he is likewise credited with many good deeds. In the author's opinion, his good traits about balance his mischievous ones, as he is at present represented in Ontario, but he thinks the species should not be allowed to greatly increase. Of course, the Woodpecker, Cuckoos, Thrushes, Warblers, and Flycatchers, are highly commended and their protection strongly advocated. This useful pamphlet closes with a reprint of the Ontario 'Act for the Protection of Insectivorous and other Birds'; the species exempted from protection are "Hawks, Crows, Black-birds, and English Sparrows." The 33 full-page original illustrations are not especially artistic, but will probably aid the farmer in distinguishing between his friends and foes.—J. A. A.

**Stejneger on the Birds of the Kurile Islands.**<sup>1</sup>—This appears to be the first attempt to enumerate the birds of the Kurile Islands, which are, zoologically speaking, as yet a *terra incognita*. The only important collection of birds made there, since Steller's visit more than a century ago, was gathered by Capt. H. J. Snow, and passed into the hands of Capt. Blakiston and Mr. Pryer, who reported upon it in their paper 'The Birds of Japan', published in 1882. Dr. Stejneger's list is an attempt "to lay a foundation upon which others may build," and for this purpose he has "gathered together all of the materials and records" accessible to him. In most cases the information is meager and unsatisfactory, and should serve to call attention to this extensive chain of islands, "about 630 miles long," as an important field for zoological investigation. Dr. Stejneger's list numbers 146 species.—J. A. A.

**Clark on the Feather Tracts of North American Grouse and Quail.**<sup>2</sup>—At great expense of time and trouble Dr. Clark succeeded in securing either fresh or alcoholic examples of all the genera, and of nearly all the species of North American Grouse and Quail for the purpose of studying their pterylosis. In the present paper of a dozen pages and three plates we have the results of his investigations. As the field was nearly new, the paper proves a valuable contribution to pterylography and also to North American ornithology. The information is both interesting and instructive, but does not have a decisive bearing on any points of taxon-

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<sup>1</sup> The Birds of the Kurile Island. By Leonhard Stejneger, Curator, Division of Reptiles and Batrachians. Proc. U. S. Nat. Mus., No. 1144, Vol. XXI, pp. 269-296.

<sup>2</sup> The Feather-Tracts of North American Grouse and Quail. By Hubert Lyman Clark, Ph. D., Instructor in Zoölogy, Amherst College. Proc. U. S. Nat. Mus., No. 1166, Vol. XXI, pp. 641-653, with plates xlvii-xlix.

omy. It is rather confirmatory, as would be expected, of conclusions based on other structural features. He ventures, however, to present diagrams of the "hypothetical relationships," respectively, of the genera of Quails and Grouse, based wholly on a study of their pterylography. He expresses regret "that the amount of labor involved in this investigation has not been productive of more considerable results"; yet hardly more could have been expected than the contribution of facts here presented. It is not likely that any one set of characters, however, fully known, will ever serve as a basis for a satisfactory phylogeny. — J. A. A.

**Weed on the Winter Food of the Chickadee.**<sup>1</sup> — The scientific study of the food habits of our birds, now carried on at various Agricultural Experiment Stations and elsewhere, is placing in strong light the indebtedness of man to insectivorous birds. Mr. Weed's excellent paper on the winter food of the Chickadee shows that at this season the Chickadee's food consists very largely of the eggs of insects injurious to vegetation. "This destruction," says Dr. Weed, "of the myriad eggs of plant-lice which infest fruit, shade, and forest trees is probably the most important service the Chickadee renders during the winter residence." It also destroys the eggs of the tent caterpillar and the fall canker worm, as well as those of other noxious insects. Statistics are given of the results of stomach examinations, and a detailed account of how the investigations were conducted. The conclusion reached is that the Chickadee is "one of the best of the farmer's friends, working throughout the winter to subdue insect enemies of the farm, orchard, and garden." — J. A. A.

**Weed on the Feeding Habits of the Chipping Sparrow.**<sup>2</sup> — This is a detailed account of the number of times a pair of Chipping Sparrows fed their brood of young during "one long day in June," just before the young left the nest. It was found that the parents made nearly two hundred visits to the nest, carrying food to their young, during a single day. The precise nature of the food was of course not determined, but the most abundant elements were seen to be soft-bodied caterpillars, crickets, and crane-flies, while doubtless a great variety of other insects was taken. As this bird is an abundant, and at all times a harmless species, and commonly raises two broods each season, its utility as an insect destroyer is abundantly evident. — J. A. A.

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<sup>1</sup>The Winter food of the Chickadee. By Clarence M. Weed. Bull 54, New Hampshire College Agriculture Experiment Station, Durham, N. H., pp. 85-98. June 1898.

<sup>2</sup>The Feeding Habits of the Chipping Sparrow. By Clarence M. Weed. Bull. 55, New Hampshire College Agriculture Experiment Station, Durham, N. H., pp. 101-110. July, 1898.

**Whitman's 'The Birds of Old English Literature'.**—This is primarily a contribution to philology rather than to ornithology, yet it must have much interest for ornithologists who care to know the early forms of English bird names. Some two hundred bird names are here traced to their old English and cognate forms, and the subject presents many points of interest for intelligent readers, whether or not of a philological turn. —J. A. A.

**Publications Received.**—**Bangs, O.** The Florida Meadow Lark (Proc. New Engl. Zool. Club, I, 1899, pp. 19-21.)

**Clark, Hubert Lyman.** The Feather-Tracts of North American Grouse and Quail. (Proc. U. S. Nat. Mus., XXI, pp. 641-653, pll. xlvii-xlix.)

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**Evans, A. H.** Birds. 8vo, pp. xvi + 635, 1899. Macmillan & Co., London and New York.

**Gurney, J. H.** On the Comparative Ages to which Birds live. (Ibis, Jan., 1899, pp. 19-42.)

**Haase, O.** (1) Ornithologische Notizen aus 'St. Hubertus'. (Orn. Monats., 1895-1898.) (2) Untersuchung von Nestern in Löchern mit Hilfe von Zurückgeworfenem Licht. (Zeitsch. für Oologie, Jan. 1899.) (3) Ornithologische Beobachtungen vom nördlichen Atlantischen Ozean. Von O. Helms. Uebersetzt von O. Haase. (Journ. für Orn., Jan. 1899.)

**Harvie-Brown, J. A.** On a Correct Colour Code, or Sortation of Colours. (Proc. Internat. Congress of Zoölogy, 1898.)

**Huntington, Dwight W.** In Brush, Sedge and Stubble, Part V, 1898.

**Ihering, H. von.** As Aves do Estado de S. Paulo, Brazil. (Revista do Museu Paulista, III, 1899.)

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**Madarász, Julius von.** Description of a New Ground Thrush: *Geocichla frontalis*. (Természetrájsi Füzetek, XXII, 1899, pp. 111-113, pl. viii.)

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**Schalow, Herman.** Die Vögel der Sammlung Plate. (Zool. Jahrb. Suppl. IV, Drittes Heft, 1898.)

**Scalter, W. L.** On a collection of Birds from Inhambane, Portuguese East Africa. (Ibis, Jan. 1899, pp. 111-115.)

**Stejneger, Leonhard.** The Birds of the Kurile Islands. (Proc. U. S. Nat. Mus., XXI, pp. 269-296.)

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<sup>1</sup> The Birds of Old English Literature. By Charles Huntington Whitman, Fellow in English at Yale University. 8vo, pp. 50. Reprinted from The Journal of Germanic Philology, Vol. II, No. 2, 1898.

**Thayer, Abbott H.** The Law which underlies Protective Coloration. (Smithsonian Report for 1897— from 'The Auk.')

**Weed, Clarence M.** (1) The Winter Food of the Chickadee. (Bull. 54, New Hampshire College Agr. Exper. Station, 1898.) (2) The Feeding Habits of the Chipping Sparrow. (*Ibid.*, Bull. 55, 1898.)

**Wheeler, William Morton.** George Baur's Life and Writings. (Am. Nat., XXXIII, No. 385, 1899.)

**Whitman, Charles Huntington.** The Birds of Old English Literature. (Journ. of Germanic Philology, II, No. 2, 1898.)

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**Bird-Lore** I, No. 1, Feb. 1899.

**Birds and All Nature**, V, No. 2, Feb., 1899.

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## CORRESPONDENCE.

### The Spelling of Names.

EDITORS OF 'THE AUK':—

*Dear Sirs:*— For some years past I have had official or friendly relations, or both, with three distinguished men who bear the same name. By one—the President of Harvard University—it is written Eliot; by another—a zoölogist, explorer and author of world-wide reputation—Elliot; by the third—an eminent authority and writer on North American birds and mammals, for whom, by the way, it stands as a given name only—Elliott. In writing to one or another of these gentlemen, as I have sometimes had occasion to do, I have often found it necessary to verify my impression as to the precise number of “l”s and “t”s to which he laid claim. This, of course, has given some trouble, but in my simple ignorance of philology it had not occurred to me that the name in question could be “properly” spelled in only one way, and I had even supposed that some family or historical interest or value might attach to and in a way justify its slightly varying forms. These illusions, however, have been utterly dispelled by Mr. Elliot’s recent onslaughts on our unfortunate Canon XL. I have read his argument with a mixture of satisfaction and shame—satisfaction at the beneficent possibilities of correctness and uniformity of spelling which his article suggests, and shame that I, as a member of the Committee could have been so misguided as to vote for a principle which sanctions writing the name of one bird *Anthus pensilvanicus* and of another *Dendroica pensylvanica*,—and this despite the fact that in my early youth I actually enjoyed the privileges of that public school education to which Mr. Elliot so feelingly alludes.

Fortunately it is not too late to retrieve my error, and I gladly take this opportunity to pledge the use of what influence I may possess with the Committee towards the elimination of Canon XL in accordance with Mr. Elliot’s views, provided that gentleman will agree to secure and establish a uniform and hence “correct” spelling of the name he bears. That this will be easy enough in the case of our mutual friend Dr. Elliott Coues the latter’s outspoken and cordial support of Mr. Elliot in late numbers of ‘The Osprey’ leaves no reason to doubt, but with the President of Harvard University there may possibly be some difficulty!

Very truly yours,

WILLIAM BREWSTER.

Cambridge, Mass.

## A Protest.

EDITORS OF 'THE AUK':—

*Dear Sirs:*—Let me add my protest against the present collection-rage, especially the egg form. The persons given over to this mischievous passion see their own side of the matter and often, no doubt, feel innocent. There is, of course, *something* to study, however little, comparatively, even in a boughten egg shell. I emphasize the *boughten* because, the wholesale robbing of rookeries being barter, specimens gotten in this way lack even the power which an egg of one's own collecting has to call back the vision of the nest and its environment.

Any breeding colony, like that of the Brown Pelicans at Pelican Island is especially tempting to these individuals, and especially at their mercy. And while truer students are delighting in their occasional visits to such a place, and living on the memory; and whereas such a colony within reach is a priceless treasure for the world of students of the Life History of Birds, any one of these less intelligent persons may at one swoop, like a monkey in a flower garden, very nearly sweep the whole colony from the face of the earth; and at the best, for so proportionately poor a reason that his act stands black against all the beautiful good he has marred.

There should be no confounding of the horde of ignorant persons in whom the *getting-passion* is their only claim to the name of naturalist, with the *student* who must have a large series; and advice to amateurs to *get all the specimens they can* will prove pernicious in ninety-nine cases out of a hundred.

I think it very necessary to publish widely in all bird-magazines such names as that of L. W. Brownell of Nyack who has given us in 'The Osprey' his own account of his looting of Pelican Island, and bringing away one hundred and twenty-five *sets* of eggs,—about a quarter of the entire number.

Yours very truly,

ABBOTT H. THAYER.

Scarborough, N. Y.

Mar. 23, 1899.

## NOTES AND NEWS.

DR. OLIVER MARCY, Dean of Northwestern University Evanston, Ill., and an Associate Member of the A. O. U., died at Evanston, Ill., March 19, 1899, at the age of 79 years. He was born at Colerain, Mass., on February 13, 1820, and was graduated from Wesleyan University in 1844. He taught natural science at the Wesleyan Academy, Wilbraham, Mass., for many years, and in 1862 became professor of natural history in the Northwestern University, which position he held until his death. From 1876 until the election of Dr. Joseph Cummings as president, in 1881, he was acting president of the University, and after this date was the Dean. In 1876 the University of Chicago conferred on him the degree of LL. D. He was a fellow of the Royal Geographical Society and a member of many other scientific bodies. In 1866 he was geologist on the Government Survey for a military road from Lewistown, Idaho, to Virginia City, Montana. Dr. Marcy, though an authority in several branches of sciences, was more especially a geologist, and the author of various geological papers, though his college duties gave him little time for original research. His genial and sympathetic nature always won for him the respect and affection of his students.

PROFESSOR OTHNIEL CHARLES MARSH, of Yale University, died at New Haven, March 18, in the 68th year of his age. He was born at Lockport, New York, in 1831, and was graduated at Yale in 1860. He subsequently studied several years under leading specialists in Europe, returning to New Haven in 1866, where he has since occupied the chair of Palæontology. He has long been recognized throughout the world as one of the leading authorities in vertebrate palæontology. His explorations in various parts of the West for fossil vertebrates began in 1868, and in subsequent years he amassed the immense collections which have been so long famous. The results of his investigations have been published in a long series of papers and memoirs, numbering nearly three hundred titles, covering a period of more than twenty-five years. His unrivalled collections of fossils, as yet only partly worked up, he presented to Yale University, with a considerable endowment for carrying on and publishing the results of further investigation of this great mass of material. Professor Marsh is well known to ornithologists for his numerous publications on fossil North American birds, including his great quarto memoir 'Odontornithes: a Monograph of the Extinct Toothed Birds of North America,' published in 1880. Probably five-sixths of the known extinct North American birds have been described by Professor Marsh. His scientific work brought him many honors both at home and abroad. In 1878 he was chosen President of the American Association for the Advancement of Science, and from 1883 to 1896 he was President of the National Academy of Sciences.

THE COOPER ORNITHOLOGICAL CLUB of California has begun the publication of a 16-page bi-monthly 'Bulletin,' of which Nos. 1 and 2 of Volume I have been received. It is edited by Chester Barlow, with Henry Reed Taylor and Howard Robertson as assistant editors. It is a large octavo, illustrated, and well printed. The first number (Jan.-Feb.) contains a portrait and a biographical sketch of Dr. James G. Cooper, by Mr. W. O. Emerson, and various short papers on California birds, by well-known California ornithologists, including an account of the nesting of the Fulvous Tree Duck, by Mr. A. M. Shields. A new subspecies of the Brown Towhee (*Pipilo fuscus carolæ*) is described by Mr. Richard C. McGregor. The second number (March-April) is filled with excellent papers and shorter articles, including the description of a new subspecies of the Myrtle Warbler (*Dendroica coronata hooveri*), and of the Song Sparrow (*Melospiza fasciata ingersolli*), by Mr. McGregor. The 'Bulletin of the Cooper Ornithological Club,' thus early, takes a prominent place in the ornithological literature of North America, and is a credit to the energy and enterprise of California ornithologists.

THE MAINE ORNITHOLOGICAL SOCIETY (formerly the United Ornithologists of Maine) has also begun the publication of an official organ to be issued quarterly, under the title 'The Journal of The Maine Ornithological Society, A Quarterly Journal of Maine Ornithology,' under the editorship of Mr. C. Morrell. The first number (Jan., 1899), contains an account of the annual meeting of the Society, held at Waterville, Dec. 31, 1898, and papers by Mr. Arthur H. Norton, Prof. A. L. Lane, and Mr. Arthur Merrill. The principal paper of the second number (April, 1899) is by Capt. Herbert L. Spinney on 'The Gulls and Terns of Sagadahoc County.' Editorial and other notes complete the number. The 'Journal' will doubtless be an important addition to the periodical literature of North American ornithology.

'BIRD-LORE', announced in the January number of 'The Auk' as soon to appear, has made its bow to the public and has been received everywhere with unstinted praise. It is therefore needless to say that it has amply fulfilled the promises held forth in the prospectus, and has, on its own merits, taken its place at the front in the list of popular natural history magazines. The abundant half-tone reproductions of photographs from birds in life are among the finest thus far produced, and the beautiful cover, general makeup, and elegant typography are quite up to the standard of the illustrations. It has a field peculiarly its own, and one in which it can do great good. It is nothing to its discredit that it purposely avoids the technical side of ornithology, aiming instead to interest the public in the æsthetic and humanitarian aspects of bird study. That there is need of and a demand for such a journal has of late become more and more manifest, and 'Bird-Lore', with its avowed purpose to promote the "study and protection of birds," has come none too soon, and that it

so completely fills its rôle is a source of great satisfaction to all bird lovers. The first number has as a frontispiece a flashlight photograph of John Burroughs at 'Slab Sides,' and the first article is 'In Warbler Time,' by this favorite author: Dr. Thomas S. Roberts writes of 'The Camera as an Aid in the Study of Birds,' with four half-tones illustrating the life habits of the Chickadee; 'From a Cabin Window,' by H. W. Menke, is illustrated by three halftones of winter bird life in Wyoming; Miss Isabel Eaton has a paper on 'Bird Studies for Children.' In the department 'For Young Observers' Miss Merriam writes of 'Our Doorstep Sparrow'; 'Notes from Field and Study,' contain short illustrated articles; 'Book News and Reviews,' give notices of new bird books, and an 'Audubon Department,' under the editorial charge of Mrs. Mabel Osgood Wright, presents a list of the Audubon Societies, and reports of their work, from the Secretaries of many of them, while similar reports will follow from others. With the usual editorial notes, this forms a well arranged number of 32 large octavo pages, and gives good evidence of its *raison d'être*.

SINCE our notice of 'The Osprey' in the January Auk, four numbers have appeared, namely, the December, January, February, and March issues, thus bringing the magazine practically up to date as regards publication. Each number contains popular articles on birds by well known ornithologists, and there are various reproductions of bird pictures by Mr. Fuertes. Dr. Gill has a communication in the February number giving 'Suggestions for a New History of North American Birds,' to be published in parts as supplements to 'The Osprey.' After pointing out the deficiencies in preceding works, and the timeliness of a new work, he proceeds to give an outline of how the new 'History' should be prepared, his hints being quite to the point for what we might term an 'ideal' history. He then considers at considerable length the 'Classification to be adopted,' discussing 'avine orders' and 'oscine families.' He makes the point that there are no orders among birds comparable with those in other classes of Vertebrates. He says: "I would scarcely recognize any orders among living birds — certainly not more than two." He proposes that the orders of most ornithologists be designated as suborders, and to give to the present suborders the rank of superfamilies. The families of 'Oscine birds' he looks upon as being as unsatisfactory as the orders. He claims: "To entitle the sections of Oscines generally called families as such, is to obscure and falsify our knowledge of structure and to give a distorted idea of the group." In contrasting the homogeneity of structure in birds with what we may call the laxness of structure in reptiles and fishes, or even in some of the orders of mammals, he does not of course set forth any new facts, but merely emphasizes what is familiar to every specialist in vertebrates. Most taxonomers give weight to the fact that the compactness and homogeneity met with in birds is necessarily a result of that specialization as egg-laying, flying vertebrates, with which the wide range of structure and adapta-

tion seen, for instance, among reptiles, would be incompatible, if not impossible. Hence it is customary, and perhaps justifiable, that a different measure is used in dividing the class of birds into minor groups. As Dr. Gill remarks: "The differences between the extremes of the living species are less than those between the groups of the reptilian orders of turtles, or lizards, or serpents, or than those between the suborders of Primales . . . or those of Carnivores or Cetaceans." This being the fact, is it better to ignore one of the most important features of the class,—its homogeneity due to its peculiar specialization,—for the sake of measuring the differences among birds by the same unit we naturally employ for reptiles? There are two ways of looking at the matter; everything depends upon the point of view, here as elsewhere.

Dr. Gill also has a few judicious remarks on the subject of subspecies, apropos of the proposed new work, and outlines his plan as regards synonymy, and the general make-up of the biographies.

The March number of 'The Osprey' comes out in a new spring suit of type and cover, and has to all appearances quite recovered from the protracted fall moult of which the editor complained in his earlier numbers. The number also contains several communications of more than usual interest.

A STATE ornithological society was organized at Denver, Colorado, Jan. 6, 1899, under the name The Colorado Ornithological Association. At the first meeting, held Feb. 4, the following officers were elected for 1899: President, Dr. W. B. Bergtold; Vice-President, E. J. Osler; Treasurer, F. H. Fowler; Recording Secretary, H. S. Reed; Corresponding Secretary, W. Mitchell; Executive Committee, Dr. Bergtold and Messrs. Dille, Cannon, Mitchell and Collett. Although the present members all reside in Denver, it is intended to make the Association a State society, to include all the ornithologists of the State of Colorado.

THE DELAWARE VALLEY ORNITHOLOGICAL CLUB held its annual meeting at the Academy of Natural Sciences, Philadelphia, Jan. 5, 1899. The following officers were elected for the ensuing year: President, Charles J. Rhoads; Vice-President, Charles J. Pennock; Secretary, William A. Shryock; Treasurer, William L. Baily.

Among the more interesting communications presented to the Club during the past year, were 'Habits of the Brown-headed Nuthatch,' C. J. Pennock; 'Snap-shots at Birds and Nests,' Wm. L. Baily; 'Birds of Point Barrow,' E. A. McIlhenny; 'Birds killed on the Tower of City Hall,' Wm. L. Baily; 'The Hind Limb of Birds,' Wm. A. Shryock; 'Summer Birds of Wyoming Co., Pa.,' Messrs. Hughes and Stone; 'Some California Bird Notes,' Henry W. Warrington.

The average attendance for the past year was twenty-one.

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA has recently secured the collection of bird skins formed by Mr. Josiah Hoopes of

West Chester, Pa. Although for many years retired from active ornithological work, Mr. Hoopes was formerly a well known member of the Academy's Ornithological Committee—at the time when John Cassin was the leading ornithologist of the country. The present collection has been formed during recent years, and for excellence of specimens and beauty of arrangement is probably excelled by few, if any. It consists almost entirely of North American Land Birds and comprises upward of 7000 specimens.

THE RECENT organization of The American Society of Bird-Restorers is a most hopeful sign of the times for bird lovers. While the scope of the Society is national its methods are also intensely local and practical. Fletcher Osgood, the general manager and organizer, has extended its membership over much of the United States from Maine to California, and as far south as Arkansas. Accessions are coming in constantly.

The Society seeks to bring back our native song and insect-eating birds to communities all over the country, from which they have been expelled by causes known and removable. It is broadly inclusive in its aim and methods, welcoming members of kindred organizations, and helping men and women and the young to work for our birds in practical and fascinating ways. Some of its distinctive features are: The organization of adults and youth into patrols to observe and protect our birds, especially during the nesting season; concerted action, without cruelty, against the English Sparrow, and the appointment of Bird-Wardens. General educative work, tree-planting, and food-providing for the birds are specially encouraged.

The Advisory Board includes many of our leaders in science, religion, education and affairs. It is proposed to form a Branch Society in every town and city of the Union. While the society has been in existence but a few months, already fully organized branches are forming or have formed in different parts of the Nation, and the Observation and Protective Patrol is represented in many States.

An especially important movement, likely to be initiated throughout the Union, and immediately resulting from the activity of the Bird Restorers Society, is the appointment of a body of bird wardens by the Massachusetts State Board of Agriculture. These wardens are chosen from among members of the gypsy moth extermination force, dispersed over more than thirty towns and cities. Later, it is hoped, bird wardens may be appointed by the society in every town and city of the State.

Another movement, due solely, to the American Society of Bird-Restorers, is now attracting wide attention: A Committee of Bostonians, organized by Manager Osgood and those associated with him, presented recently to the Mayor of Boston, a petition not far from thirty feet long, signed by a great number of the heaviest taxpayers in Boston, together with clergymen, educators, and people of all classes praying that the English Sparrow be reduced and if possible practically suppressed in

Boston. The petition was endorsed by Dr. L. O. Howard, Wm. Brewster, Dr. Vernon, E. H. Forbush, John Burroughs, Prof. C. H. Fernald, Messrs. Palmer and Beal, and others widely known to ornithology and kindred sciences.

The mayor (the Hon. Josiah Quincy) promptly ordered the reductions to be begun under the supervisors and general directions of the Committee organized by the American Society of Bird-Restorers.

The methods to be first tried are: Egg-destruction by the destruction of nests in the breeding season, and trapping by methods carefully studied and thus far proved effective. Many other methods are thought of and may be ultimately used. If successful in Boston, Sparrow reduction is likely to spread all over the country.

Information about this work and all other work of the American Society of Bird-Restorers will be gladly furnished on applications to Fletcher Osgood, General Manager, Boston, Mass.

THE second annual meeting of the Audubon Society of the State of New York was held in the lecture hall of the American Museum of Natural History on March 23, 1899. The program included a report on the work of the year by Frank M. Chapman, chairman of the executive committee; an address by Madame Lilli Lehmann, the famous interpreter of Wagnerian roles; the presentation of letters from Dr. Henry van Dyke and Governor Roosevelt endorsing the aims of the society; and an exhibition by Prof. A. S. Bickmore of slides of birds and their nests recently furnished by him to the normal schools of the State of New York.

Mr. Chapman stated that over 40,000 leaflets treating of various phases of the necessity for bird protection had been distributed by the society, that the interest of the public in the subject was constantly increasing, and that its field for usefulness was limited only by its available funds.

Dr. van Dyke's letter expressed continued sympathy with the cause of the society, and Governor Roosevelt wrote in the same vein and with the evident sincerity of a genuine lover of birds.

Madame Lehmann, who is prominently connected with bird protection and humane societies of Germany and Austria, spoke earnestly of the need of concerted action in awaking an interest in the work of preserving birds, and urged the importance of nature studies in the schools.

Professor Bickmore, curator of the American Museum's Department of Public Instruction, exhibited a series of 100 slides representing the leading types of American birds and their nests from the *Pygopodes* to *Macrochires*. The larger part of these pictures had been made directly from nature, and they constitute by far the most interesting and valuable set of the kind ever introduced into the schools of this country.

ERRATUM.—In the January number, page 21, line 14 from top, for true frog read tree frog.







MYRTLE WARBLER (FIRST PLUMAGE).

YELLOW-BREASTED CHAT (FIRST PLUMAGE).

$\frac{3}{8}$  NATURAL SIZE.

# THE AUK:

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SEQUENCE OF PLUMAGES ILLUSTRATED  
MYRTLE WARBLER (*DENDROPHILA*)  
AND THE YELLOW-BREASTED  
(*ICTERIA VIRRENS*).

BY JONATHAN DWIGHT.

Plate III

THE young birds figured on the accompanying plate have the plumage that is common, not only to all the species of Myrtle Warblers, but to many other species of birds, when they are first seen from the nest. It is but one stage in a series of changes, and in a series of successive plumages in the life of the bird. We shall be able to grasp the idea of the life of the bird, and the true understanding of the relation of the plumage to the life.

There is a downy stage antecedent to the first plumage of the young of the Myrtle Warbler (*Dendrophila*). The young in the nest are scantily clothed with down, and the first plumage is of true feathers, which grow from the skin in distinct tracts. These are rapidly displaced by a second plumage, which they adhere for some time. The first plumage is known as the 'first' or 'nestling' plumage. The Myrtle Warbler, happens to bear a resemblance to that of the adult Pine Finch, and the young is often seen by the spray of evergreen or the young of the bird. The plumage of all young birds is of the same color.



# THE AUK:

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SEQUENCE OF PLUMAGES; ILLUSTRATED BY THE  
MYRTLE WARBLER (*DENDROICA CORONATA*)  
AND THE YELLOW-BREASTED CHAT  
(*ICTERIA VIRENS*).

BY JONATHAN DWIGHT JR., M. D.

*Plate III.*

THE young birds figured on the accompanying plate illustrate a plumage that is common, not only to all North American Warblers, but to many other species of birds at the time of leaving the nest. It is but one stage in a series, and by tracing the development of successive plumages in the two species before us, we shall be able to grasp the idea of sequence, which underlies a true understanding of the relation plumages bear to each other.

There is a downy stage antecedent to the one figured. The young of the Myrtle Warbler (*Dendroica coronata*) while in the nest are scantily clothed with downy filaments, the fore-runners of true feathers, which grow from definite parts of the feather tracts. These are rapidly displaced by new feathers, to the tips of which they adhere for some time. This second stage, generally known as the 'first' or 'nestling' plumage, in the case of the Myrtle Warbler, happens to bear a strong superficial resemblance to that of the adult Pine Finch (*Spinus pinus*), which is heightened by the spray of evergreen on which the artist has posed the bird. The plumage of all young birds is, however, always weak

and soft at this stage, even the flight-feathers being less compactly rounded out terminally and deficient in pigment as compared with those of adults.

Within a few weeks, the plumage of the third stage, commonly known as the 'autumnal,' has replaced that of the second, which is in most species quite evanescent. The flight-feathers, however, are retained throughout the following winter and summer and are not renewed until the first postnuptial molt occurs, about a year after the birds have left the nest. The primaries, their upper coverts, the secondaries (usually the tertiaries), the alulæ, and the rectrices are the only feathers retained of the 'first' plumage. The body feathers assumed resemble closely in structure and pattern those of the adult at the same season, and are worn during the winter until the end of March or April, when together with the wing-coverts they are renewed by a prenuptial molt, young and old becoming indistinguishable except by the worn, dingy wings and tail of the young bird.

The young bird has now reached a fourth stage, the plumage of the first breeding season, which in the Myrtle Warbler is made up of parts of three, — the flight-feathers, matured in the second stage, a few of the third stage, retained chiefly on the posterior parts of the body, and the new feathers assumed in spring.

At the end of the breeding season, the first nuptial, a complete postnuptial molt occurs which renders old and young indistinguishable, adults entering a fifth stage separable from the third chiefly by the blacker wings and tail, and brighter wing edgings, a difference that holds good for a twelvemonth, although it is not infallible and cannot always be made out. The fifth stage of plumage is worn until the following spring when the prenuptial molt occurs, involving only the body plumage and wing-coverts, as in the young bird.

A sixth stage, the adult breeding plumage, is the last one recognizable in the Myrtle Warbler, although it is well to bear in mind that a seventh, corresponding to winter plumage, and an eighth, corresponding to summer plumage, occurs, and so on until the death of the bird. Fortunately this species passes both winter and summer mostly within the borders of the United States so that I have been able to examine large numbers of specimens

taken every month in the year. The sequence of plumages is beautifully shown, and it is time it should be more widely recognized as a concrete fact.

The Yellow-breasted Chat (*Icteria virens*) is in some respects apparently unique among our Warblers. There is the first or downy stage, and the second, which is the one figured on the plate. The yellow spots represent the coming feathers of the third stage, the autumnal or winter plumage. Unlike the Myrtle Warbler, a complete molt, judging from the few specimens available, takes place, including the wings and the tail. No other Warbler of nearly forty species examined exhibits this peculiarity, although it is common enough in other families. This plumage assumed is practically indistinguishable from that of the adult, the black of the lores and suborbital region being as a rule less intense. It is worn without molt throughout the following winter and summer.

Consequently the fourth stage of plumage is simply the third plus a certain amount of inconspicuous wear.

The fifth stage follows the postnuptial molt, and the sixth is the fifth modified by molt. All of these stages may not be traced in all individuals, for the depth of the black of the lores is a variable and slender character, but it will be observed that the sequence of plumages obtains even when we cannot distinguish with certainty one from another.

The lesson to be learned from these two species is a valuable one, and many other species teach the same thing, namely, that plumages succeed each other in definite sequence, those of young birds overlapping in their development. To number the different stages consecutively has obvious disadvantages, and the terms now in common use are inexact, so that some new scheme should be devised to meet the exigencies of the case. As a solution of the difficulty, I offer the following names which conform, so far as is compatible with clearness, to every-day usage already sanctioned.

1. *Natal Down*. This is a first stage, no matter whether the covering of the young bird in the nest be downy or hairy, scanty or abundant, evanescent or persistent.

2. *Juvenal Plumage*. The name I propose as a substitute for 'first' or 'nestling' plumage is definite and suggestive of the

stage it represents, and may not be confused with the 'first winter' and the 'first nuptial' plumages, which seem to be fitting antitheses to 'adult winter' and 'adult nuptial.' At all events, *juvenal* marks a second stage, which is ill suited by the adjective 'first.' It is doffed by a postjuvenal molt.

3. *First Winter Plumage.* In this third stage feathers of adult structure are first assumed, the wings and tail of the juvenal plumage being retained in the majority of our species. It is the 'autumnal' plumage.

4. *First Nuptial Plumage.* This is the breeding dress of young or 'immature' birds and it may be merely the first winter plumage plus wear, or it may be wholly or in part acquired by a prenuptial molt which very rarely includes the flight-feathers, although the tail may be renewed when the wings are not.

5. *Adult (or Second) Winter Plumage.* A complete molt always follows the breeding season and distinctions between young and old birds usually vanish at this time, unless they have done so earlier. In most species, the differences between first and second (adult) winter plumages are inconsiderable, in some the plumage differs widely and several molts occur before the young bird acquires full adult dress.

6. *Adult (or Second) Nuptial Plumage.* This may be acquired every year in exactly the same way as the first nuptial, but there are some species that, after one prenuptial molt, undergo only the postnuptial in succeeding years.

There are many species in which these six plumages or stages may be clearly recognized,—usually less than six can be made out, and very rarely more. 'Third Winter' and 'Third Nuptial' will indicate later plumages, but 'adult' may naturally be substituted as soon as differences between young and old are obliterated.

My scheme, with proper modifications for certain groups of birds, will apply to all North American species, and, with a clear understanding of the process of molt, will explain the puzzling combinations of plumage that are as yet unsolved.



## A FAMILY OF NESTLINGS.

BY D. E. OWEN.

OBSERVERS who have watched the growth of nestlings, from the hatching of the eggs to the abandonment of the nest by the young birds, often have been struck by the rapidity of the development witnessed; but, owing to the difficulty of obtaining quantitative data, exact information on this branch of bird study is meagre. In order to formulate an accurate record of the growth of a nestling, it is necessary to weigh the bird, at stated intervals, for as long a period as possible. This operation, it is needless to say, bristles with embarrassments. The unfavorable conditions for careful manipulation of the balance that obtain in field and thicket, especially during wet or windy weather, taken in conjunction with the inaccessibility of many nests and the inconvenient situation of most, render the study of ornithology, along such experimental lines, a pursuit characterized by trial and disappointment. Occasionally, however, a peculiarly favorable opportunity — such as the one about to be described — enables the observer to obtain facts of sufficient value to justify the labor involved in the research.

Early in June, 1898, the writer of these notes built a small camp at Saco Ferry, Maine. The building was placed over an old cellar, a portion of which only was utilized, the remainder, which lay in the rear of the camp, being left uncovered as a sort of sunken back-yard. Into this grass-grown excavation the refuse building materials had been thrown, and it was while we were clearing away the rubbish that a nest of a Song Sparrow (*Melospiza fasciata*) was discovered, snugly ensconced beneath a half-buried brick that protruded from the sloping wall of the ruined cellar. The nest contained several eggs which were increased in a few days to the full complement of five. On the 14th of July, four of the eggs hatched, and at our morning call the next day, we were confronted by five gaping red mouths, accentuated by big black eyes, and barely supported by five feverish, naked little bodies; and when, by means of a teaspoon, properly warmed, we had removed one of the birds for more minute inspection, we were alternately amused and stricken with concern, as the flabby

youngster strove to poise himself and lift his heavy head for the expected morsel, only to collapse, ignominiously, into a panting heap.

We had provided the camp with a balance, sensitive to one-tenth of a gram, and conveniences for weighing in the shape of sundry pill-boxes for confining the birds. To this apparatus we bore our infant of the teaspoon and found that he tipped the scale-pan at two and nine-tenths grams, or a little more than a tenth of an ounce. A cautious dab of carmine on the back would serve, we thought, by its bright hue, to distinguish our subject from his mates, and with this decoration we restored him to the nest. The next day we made discoveries that led us to modify our procedure. We found that, by chance, we had selected and marked for experiment the smallest bird in the brood, the runt, in brief,—the last bird, probably, to hatch. Moreover, the carmine had not proved an unqualified success, since the friction of the old birds' feathers and the scrubbing together of the young birds in their cramped quarters had nearly erased the generous daub originally bestowed. Apprehensive lest we might, some day, be unable to recognize the chosen bird, and desirous, also, of getting a better idea of development than the smallest bird might be expected to show, we decided to weigh the whole brood, at 12.30 P. M., daily, and take the average as the basis of our calculations and inferences. This system was put into practice at once and continued for six days, all the birds being weighed and a separate record being kept of the marked bird which, as it proved, we were always able to distinguish. The result may be tabulated as follows:

<i>Marked Bird.</i>		<i>Average of the Brood.</i>	
Date.	Weight.	Date.	Weight.
July 15.	2.9 gms.	July 16.	5.80 gms.
" 16.	4.5 "	" 17.	8.62 "
" 17.	7.2 "	" 18.	10.91 "
" 18.	9.0 "	" 19.	13.68 "
" 19.	12.6 "	" 20.	15.44 "
" 20.	14.1 "	" 21.	16.58 "
" 21.	16.0 "		

We were, in a measure, prepared for noteworthy results, but we were not prepared for the rapidity of growth that the table records. The family whose members increase in average weight 48% in twenty-four hours is a thriving one indeed; yet this is the rate of increase of the nestlings for July 16-17. The rate falls off after the latter date, becoming successively, 25%, 20%, 13%, and, finally, 7% in a day. Most interesting and suggestive are the figures showing the growth of the marked bird. It is a common impression that the runt of the brood has a bitter struggle for existence, being, by reason of inferior strength, largely at the mercy of its greedy fellows and crowded out of much-needed food in consequence. The results above noted would seem to imply that in well-regulated feathered households, at least, the doctrine of the survival of the fittest is warmly tempered by justice and mercy. At all events, the smallest Song Sparrow grew phenomenally. He picked up 55% in weight the second day of his life and save on a single day his increase never failed of being from 6% to 20% above the average! Beginning existence as the smallest of the lot and weighing, the second day, 1.3 grams less than the average, the marked bird grew, in a week, to weigh only half a gram, or about  $\frac{1}{8}$  of an ounce less than the average, a record which bears testimony to abundant nourishment and a good digestion.

The rapid increase in weight of the nestlings needs no theorizing to account for it. The devotion of parent birds to their young and their industry in providing food are proverbial; but no one who has neglected to sit watch in hand, within range of a nest of five importunate, half-fledged youngsters can formulate an adequate conception of the fidelity with which birds discharge their parental duties. We made it a point to watch the nest of Song Sparrows in the old cellar from the camp window, whenever, through the day, it chanced to be convenient. With watch or clock before us and writing materials at hand, we sat at intervals of from fifteen minutes to an hour and a quarter at a time, accurately noting the visits of the parent birds. It was absorbing and exacting work. The old birds never flew directly to the nest, but approached it by stealthy stages, alighting now on a rock, now on the camp, again on a small bush. A rapid scrutiny of the cellar,

a quick flit, a scramble through the grass and a sudden disappearance, this was the usual programme. A few seconds later the grass blades would be separated very quietly, and the bird might be seen standing for a brief moment perfectly still; again the quick flight and the visit was over. The male was in the habit of alighting on a small bush, some twenty-five yards from the cellar, for a brief song, before renewing his search for the grubs and the insects which supplied the family larder; but the female never slackened her assiduity.

Back and forth, back and forth, from sunrise until sunset, the parent birds journeyed to and from the nest at the average rate, for the time we watched, of a visit by one of the birds every 4.75 minutes. On the whole, the feeding became more frequent as the nestlings grew. Thus in the two hours and thirteen minutes that we watched the nest, July 19, the birds made a total of twenty-six visits, or one every five minutes, while July 21, the average interval was 3.24 minutes. On the last named date we recorded the visits to the nest during some part of every hour but one between five o'clock in the morning and eight o'clock in the evening; and it is worthy of mention that the most frequent visits during this day were made between three and four o'clock in the afternoon when a thunder shower was passing over the locality. In the midst of a pouring rain the parent birds carried food to their brood every two minutes! Between seven and eight o'clock the calls were still at the rate of one in two and eight-tenths minutes; but we were unable by observation on this or any other day to discover any constant relation between the rate of feeding and the time of day.

It remains to explain why our observations on the Sparrows were not extended over a longer time. One week seems a brief period to follow the life-history of so interesting a family, but, unfortunately, the precocity of the members rendered a longer intimacy out of the question. The increase in weight that has been described was accompanied by other features of development. When the first weighing was done the young birds were weak and submitted with the passive philosophy born of innocence and inability; but the operation was not long to remain so easy. By July 18, the big eyes, which up to this time had

been covered with a thin translucent film, began to open. With the awakening to things visible came a greater liveliness and a tendency to be afraid which found voice, the following day, in loud chirps of alarm. These gave place, July 20, to genuine squawks and July 21, when we took the brood from the nest for the usual weighing the remonstrance was so boisterous as to summon the old birds which hovered about, much disturbed, until the experiment had been concluded. Finally, on the 22nd of July, we found the nestlings too lively to be handled and in our efforts to capture the lot we lost one altogether. Search as we might, we could discover no trace of the missing bird which, but a moment before, had been standing on the grass close to the nest. Misgivings consumed us for the remainder of the day; but we were destined to be reassured. On the following day, the young birds, now fully fledged, and able to fly a few feet, one by one left the nest and were led by the parents to a clump of weeds and bushes a few yards away. It was the final surprise of our week's observations to see the vigor with which the young birds followed the old birds, by easy stages, across the field, now running in the grass, now essaying a miniature flight. Within an hour these Song Sparrows of a week had justified the arduous attentions of the parent birds by removing, one by one, to the clump of small growth, to which, no doubt, the nestling lost the previous day had been conducted. For a day or two an occasional familiar chirp from the weeds assured us that the family was still intact; but we saw little more of either old or young.

## ON SOME GENERA AND SPECIES.

BY D. G. ELLIOT, F. R. S. E.

IN MY little book on the 'Wild Fowl,' I gave some reasons why, in my opinion, the genus *Olor* of Wagler, Isis, 1832, p. 1234, should not be employed in preference to *Cygnus* Bechstein, Orn. Taschenb., Vol. II, p. 404 (1803). In order to bring this question to the attention of the Committee of Nomenclature, some of whose members probably have not read what I have written, I propose to consider *Olor* as diagnosed by Wagler, and afterwards by Stejneger (Proc. U. S. Nat. Mus., 1882, p. 174), and show what seems to me, the entire insufficiency of the generic values of the characters advanced by these writers, and also that they are by no means in accord as to which of these should be selected to represent the genus.

Wagler divided the Swans into three genera, *Cygnus*, *Olor* and *Chenopsis*. With the last, containing the Black Swan, I have at present nothing to do. *Cygnus* is diagnosed as follows: "Aeusere Merkmale dieser Sippe bestechen in dem Höcker von der Stirn und in dem Daseyn der Nagelkuppe am Oberkiefer." In this genus he placed the Mute Swan, *Cygnus gibbus* Bechst. = *C. olor* Gmel. By the above it will be seen that the characters relied upon as generic are the knob at the base of the bill, and the nail on the tip. *Olor* contains the rest of the White Swans, omitting only *columbianus* Ord. The diagnosis for this is as follows; "Der Oberkiefer ohne Nagelhuppe; die Stirn ohne Höcker:" Thus the presence or absence of the knob and nail on the bill are the only characters. In some remarks after the species he makes certain comparisons of the anatomy, such as the windpipe, muscles of the crop (Magen), etc., but the characters for the genera are as quoted above.

Stejneger (l. c.) has quite another diagnosis, and not only rejects all the characters relied upon by Wagler, but actually employs as a specific character the chief one, the knob (Höcker) given by Wagler to distinguish his two genera.

For facility of comparison I here give Stejneger's definition of

*Cygnus* and *Olor* in parallel columns, and it will be seen how hard pushed he was to find any lines of separation between them.

OLOR.

Predominant color of the adults white.

Young with downy or feathered lores, the down on the sides of the bill terminating far back of the nostrils, and forming very distinct loreal antiæ.

Tertials and scapulars normal, not crisp.

Tail longer than the middle toe with claw, rounded.

Inner webs of outer three primaries and outer webs of the second, third, and fourth sinuated. Webs of the feet not scalloped.

CYGNUS.

Predominant color of the adults white.

Young with downy or feathered lores, the down on the sides of the bill terminating far back of the nostrils, and not forming distinct loreal antiæ.

Tertials and scapulars normal, not crisp.

Tail longer than the middle toe with claw, cuneate.

Inner webs of outer three primaries and outer webs of second, third, and fourth sinuated. Webs of the feet straight, not scalloped.

The mountain has indeed labored and brought forth a mouse. Did any one ever before see so little produced from so much? The above diagnoses are absolutely identical save in two particulars, neither of which can be deemed as presenting *generic* characters at all, or if they should be so mercifully regarded by some compassionate writer, it could be at best only to permit them to create a very doubtful status as subgenera. It will be observed that the only characters given by Wagler, the knob and nail on the bill, and upon which he relied to establish *his* genera, are by Stejneger entirely ignored, for the reason that will be shown later on, and two others set up in their places. And what are these, and where does he look for the chief one? In the adult, or even in the immature bird? No, but in the downy young. When the newly hatched bird is devoid of feathers he finds a *generic* character upon the outlines of the down that in a few days will disappear and never be seen again throughout the bird's existence! This character (?) I have stated in the 'Wild Fowl,' to be "an adolescent, evanescent, and unreliable distinction, one not possessed by the adults, and which if recognized would place the young in one genus, the adults in another." It is difficult to

imagine that any one would dream of offering diagnoses like those given above for establishing genera, unless he was imbued with a determination to carry out his purpose at all hazards. Wagler's characters were far better, but they have been rejected by ornithologists as unworthy of being considered generic for over fifty years, and this fact may have induced Mr. Stejneger to look for others. But his genera are not those as defined by Wagler, the only similitude being that Stejneger has kept the same species together. Wagler's characters were taken from adult birds, where generic distinctions if they exist are permanent, and remain as long as the bird lives, and not from that incipient stage of adolescent plumage that a few fleeting hours causes to disappear. As well found a genus (and indeed with more reason) for the young of the Spoonbill with its narrow pointed bill, and another for the adult with its spatulate maxilla, for here is a wide difference, but the first is only a temporary condition, like the down on the cygnets, the latter a permanent character.

I have said that Stejneger rejected Wagler's first named character, the 'knob,' for a reason, and this appears in the key of the species of *Cygnus* (p. 189), where it is employed in a specific sense as indicating the divisions in which he separates what he gives as the distinct species of that genus, but it is nowhere employed in his paper as a generic character, as Wagler gave it. Thus, in the synopsis of the species, Stejneger divides them as "a<sup>1</sup>, culmen with a knob at the base; a<sup>2</sup>, culmen without a knob," this last, by the way, being Wagler's chief character for *Olor*.

As to the rounded or cuneate tails as *lone* characters, the other being of no value, it is hardly necessary to discuss them as of sufficient importance to establish a genus. It will thus be seen that Wagler's genus *Olor*, founded upon characters that were merely non-existent when compared with those he gave for *Cygnus*, having been rejected by all ornithologists for more than fifty years, can hardly with reason be resurrected for such insufficient and unreliable reasons as those advanced by Stejneger; and the fact remains, and many ornithologists have always been convinced of it, that there does not exist any character that can properly be termed generic, to separate the known species of



White Swans. It is, therefore, to be hoped that the Committee, after due consideration of the above presentation of the case, may decide to relegate *Olor* to its true position of a synonym, and reinstate *Cygnus* as the proper genus for our Swans.

The genus EXANTHEMOPS, instituted by me in 1868 for *Anser rossi* Cassin, has, according to the report in the last number of 'The Auk,' been accepted by the Committee on Nomenclature as a subgenus. The reasons which influenced this decision are not given, yet it would be interesting to learn what they were. Ross's Goose is a rare bird, comparatively speaking, and few collections, even those of great museums, possess more than two or three examples, and opinions founded upon such scant material are very apt to be misleading if characters fully developed are only to be best appreciated in the adult. Those on which I relied when founding the genus were the following: the wart-like excrescences, which increase in size and number as the bird advances in years, until they completely cover the base of the bill, and extend nearly to the nostril; the absence of gap at the commissure, so conspicuous a feature in the bills of all other Snow Geese, no black space visible, also a clearly discernible feature in the species of *Chen*, and hardly any beveling present and consequent absence of the grinning expression, so remarkable a feature in its allies. Now it seems to me that these are structural features not found in any other species of Goose, and entitle their possessor to a distinct generic rank. If one takes the excrescences on the bill as the sole character as to what constitutes the genus and forms his opinion solely upon dried skins, he is very apt to reject it as unfounded, because these peculiar 'warts' dry up to a great extent, indeed in some cases almost disappear after death and leave but little evidence of their previous size or of the extent of bill they covered. Hearne, who was the first observer to record the appearance of this bird in life, says the bill "at the base is studded round with little knobs about the size of peas, but more remarkably so in the male." Voy. North. Ocean, p. 442 (1795). This is a character similar to those on which the genera *Flecopterus* *Cairina*, *Sarcidiornis* and others are established and accepted. Dried skins do not exhibit differences that are mainly

fleshy, as they appear in life, and one is apt to go astray when an opinion is formed upon them as to their generic value, for they are much less pronounced than they are when the animal is alive. These caruncles, unknown in any other Goose, and the structure of the bill very unlike that of other species in the subfamily, are, I maintain, sufficiently divergent structural characters to establish a distinct genus.

In the 'Shore Birds,' I gave the name that should be employed for the Western Willet as *Symphemia s. speculifera* Pucheran, arriving at this conclusion by an independent investigation, having forgotten Dr. Allen's very clear and conclusive evidence on this subject published seven years previously (Auk, 1888, p. 423). Had I remembered this, it would have saved me considerable work. This matter, so far as outsiders are aware, has never been acted upon by the Committee; at least, there has been no verdict announced, and as the Check-List is now in a fair way of being presented in a correct and proper shape, even a matter of this kind should not be permitted to slumber longer. In an article published in the Rev. et Mag. de Zool., 2nd Series, 1851, p. 369, entitled 'Études sur les types peu connus du Musée de Paris,' Dr. Pucheran describes as *Totanus speculiferus* the bird mentioned by Cuvier, Règne Anim., 2d edit., Vol. I, p. 534, in a note, as follows: "Ajoutez au chevaliers ordinaires, *Tot. speculiferus*, assez semblable au *semipalmatus*, mais plus haut sur jambes, à bec plus long et à pieds ordinaires." Pucheran gives a detailed description of this specimen, which is not necessary to reproduce here, merely stating that it portrays Mr. Brewster's *inornata* in winter. He sums up the matter as follows: "Cette espèce se distingue, par la longueur de son bec, du *Totanus semipalmatus*, Tem. Les dimensions du seul individu que possède la Musée de Paris sont les suivantes: Longueur du bout du bec à l'extrémité de la queue (prise directement, le bec étant fortement tourné à droite), 33 cent.—*Id.* de la queue (mesurée en dessous), 8 cent.—*Id.* du tarse, 75 millim.—*Id.* du doigt médus (l'ongle y compris), 41 millim.—*Id.* du bec (en suivant la courbure), 66 millim.

In the opinion of several ornithologists, this bird is the same as Mr. Brewster's subspecies, and that our Check-List is wrong in containing the name of *inornata*. Fortunately, as the type

described by Pucheran is in the Museum of Paris, it is a very easy matter to send some winter examples of the Western Willet to Dr. Oustalet and have a comparison made and the question settled beyond a doubt. I suggest to the Committee that this be done.

In the same number of 'The Auk' the name for our Northern Turkey has been correctly given as *M. fera* Vieill., Nouv. Dict., 1817, p. 447, and not *M. sylvestris* Vieill. as given by me in 'Game Birds.' It may be interesting to state how I came to adopt that name, as Vieillot never described any Turkey as *sylvestris*. In the MS. of the book just mentioned, I had originally placed our northern bird under the name of *gallopavo* Linn., and it was only as the copy was being put in type that, acquiescing in the views of some of my colleagues, although fully convinced that their case was not proven, any more than my view could be proved, I adopted *gallopavo* for the Mexican bird. It was then necessary to ascertain what name Vieillot had given the northern bird. There was no copy of the 'Nouv. Dict.' available, and I could not delay the printer until I should be able to consult it, so perforce, contrary to my established custom in such cases, I accepted the citation given in B. M. Cat. Birds, XXII, p. 389, as correct, and was thus led astray.

As to the names adopted by the Committee, I regret that I cannot accept them. There is no evidence that I am aware of, that conclusively proves that *fera* and *gallopavo* as now understood, intergrade, and until that is ascertained to be a fact I prefer to consider them as distinct species, with *osceola* a subspecies of *fera*. With regard to *intermedia* (*elliotti*) of my book (l. cit.), the more I investigate that bird the more I am convinced that it should be accorded specific rank. Beside the different coloring of the male, that of the female agrees with or resembles none of the females of any other known Turkey. Like many other species of birds (it would be easy to give examples) the main and important specific differences are to be found in the female, and if the male was exactly like *fera*, these characters would be sufficient for separation. The gray tips to the feathers of the upper surface making almost continuous bars across the body, and the buff ones performing a similar service on the

under parts is a quite unique character. I would therefore designate the Turkeys as follows:

*Meleagris fera*. Northern Turkey. Pennsylvania to Florida, west to Wisconsin and Texas.

*Meleagris fera osceola*. Florida.

*Meleagris intermedia*. Southern Texas; Eastern Mexico below 2000 feet.

*Meleagris gallopavo*. Western Texas to Arizona. Tablelands of Mexico.

Under these names the Turkeys will appear in the third edition of 'Game Birds.'

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## SOME PARASITES OF BIRDS.

BY VERNON L. KELLOGG, PROFESSOR OF ENTOMOLOGY, LELAND  
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ALL collectors of birds have noticed, and some have been made uncomfortable by, certain small flat, wingless, quickly-running insects which infest, in varying degree of abundance, the outside of birds' bodies. These insects are known as Mallophaga and are of such peculiar and unusual structural condition, differing so markedly from any other insects, that they have been constituted an independent order of insects, although in number of species they are insignificant compared with the better known insectan orders.

Yet small as is the group, the number of known species in it, a thousand, approximately, may seem surprisingly large to those unacquainted with the systematic exploitation of the order.

The Mallophaga are external, wingless parasites of birds and mammals which feed exclusively on the feathers, hairs and dermal scales of their hosts. They are not lice, if by lice be meant those better known Hemipterous parasites which with piercing beak thrust into the flesh of the host, suck its blood. The Mallophaga have mouth parts fitted for biting and chewing, with

strong biting and masticatory mandibles. The order includes four families, comprising 21 genera. Of these, two families, represented each by a single genus, and including altogether not more than 50 species, are restricted to mammals, while the other two families with their numerous genera are found on birds alone.

To ornithologists the Mallophaga will have no special interest except as parasites of birds. That is, their peculiarities of structure or of development, or their systematic isolation among insects will be of but secondary interest compared to the facts of their parasitic relations to their hosts, the birds. And, indeed they are those facts about the Mallophaga which are, perhaps, of first importance to entomologists. For it is because of their parasitic habits that they have come to depart widely from their racial type.

I shall endeavor, then, to state briefly some of the ascertained facts regarding the relations of the Mallophaga to their hosts, and to indicate certain interesting moot points, to whose settlement the aid of ornithologists needs to be invoked.

Nearly one thousand species of Mallophaga have been described by three or four European entomologists from European and Asiatic birds. In this country 262 species of Mallophaga have been recorded from 257 species of North American birds. Of these species 105 have been determined to be identical with species previously described from birds of Europe or other foreign country, while the remaining 157 have been described as new species. An important problem is immediately before us: how come Mallophagan species to be common to foreign and to American hosts? First, must be eliminated those hosts common to the two continents either by reason of circum-polar range or importation. Then must be eliminated the few possible cases of the meeting on mid-ocean islands of related maritime birds of strong flight from the two continents. Finally there remains a large number of instances in which a Mallophagan species is common to American and foreign hosts of distinct species, and distinct genera frequently, who have no possible chance for that contact which might allow the parasites to migrate directly from one host to the other. This problem of

distribution is also presented to us in a less striking, perhaps, but no less real phase among the hosts of our own continent. A Mallophagan species is by no means certainly limited to one American host species. Indeed a majority of North American Mallophagan species have been recorded from two or more American host species. How does this condition come to exist?

We have to do with a wingless parasite but a parasite with good legs. Our parasites can migrate from host to host when this migration can be performed on foot. But as a matter of fact this migration does not take place unless the host bodies are close together or in actual contact. Such actual contact takes place between male and female and between old and young. Thus is explained the perpetuity of the parasites upon a single host species. Among gregarious birds the parasites may migrate from individual to individual of the same species, thus breaking up too much close breeding. But several species of birds of gregarious habits may roost or perch together: so the parasite may spread among several Gull species or Duck species or Alcine species, conditions which actually exist as shown by our records of occurrence. And there may be other rare opportunities for migration from host species to distinct host species, as in cases of hybridization, or where the Mallophaga might be carried by winged parasites of birds, like the Hippoboscidae. After all, however, the majority of instances in which a parasitic species is common to two or more host species or host genera cannot be so simply explained. The instances in which actual contact and hence direct migration is possible are few.

There are certain data at hand which should be known to anyone attempting a solution of this problem in distribution. Most important is this fact: where a single Mallophagan species is recorded from two or more North American host species, the host species are, in almost all cases, closely related. That is, the hosts may represent two or more species of a single genus, or, as less frequently is the case, of two or more allied genera. Only in a few cases do we find a parasite common to genera representing different families of birds. Similarly, in those numerous instances of commonness of parasite to European and American hosts, the hosts are always or nearly always allied forms. As

for example, the case of the Mallophagan species *Nirmus signatus* and *Nirmus pileus* found in Europe on *Recurvirostra avocetta* and in America on *Recurvirostra americana*. The instances in which the parasites are common to hosts of different genera in America and Europe are not infrequent but the genera are, in almost all cases, allied ones.

I have suggested elsewhere the only explanation of this problem in the distribution of the Mallophaga which seems to me possible, and that is that the Mallophagan species common to hosts of different species, in instances where all possibility of direct migration is precluded, have persisted unchanged from a host which was the common ancestor of the present distinct host species. The influences, climatic and geographic, which have resulted in effecting the founding of the new bird species have had no effect on the parasitic species. The food and environment of the parasite are essentially the same on one bird as on another. A paling of plumage, a shortening of legs, a development of crest feathers, or whatever new characters might be fostered and fixed by a change of environment of the host, resulting in the production of a new bird species, would have, apparently, no necessary influence on the parasite. Does some more probable explanation of the facts of distribution of these bird parasites suggest itself to any member of the A. O. U.?

It may be of interest to append a few notes regarding the relative abundance or rarity of the parasites on their hosts, and regarding the constancy or irregularity with which a specific parasite is found upon its special host. A host species may have several parasitic species infesting it; I have taken ten species of Mallophaga, representing six genera, from *Puffinus opisthomelas*, and twelve species representing five genera from *Fulica americana*. Or, the host species may have but one or two or three species of parasites, as is the case with the Ducks and Gulls. A parasitic species may be constant in its appearance on the individuals of its host, as with *Docophorus lari* Denny, almost certain to be found on any Gull shot, or it may be found on but few individuals of its host species, as with *Docophorus quadrateps* Kellogg, found rarely on *Fulica americana*. There may be many individuals of a parasitic species always present on

the body of its host, as with *Lipeurus celer* Kellogg of the Fulmars, of which parasite I have collected nearly one hundred specimens from a single bird, and which is always abundantly present on its host. Or the individuals may be few although the parasite is a constant one, *i. e.*, almost always to be found on any specimen of the host examined. *Trinoton luridum* Nitzsch of the Ducks is rarely numerous on its host although sure to be present on any Duck specimen examined.

With these scattered observations I close my paper, only hoping that some bird collectors may derive from these notes an interest in the Mallophaga sufficient to induce them to collect these parasites, as their collection can be made more conveniently by bird collectors than by entomologists. The preservation of the specimens is a simple matter. Drop all of the parasites obtained from a host individual (from a single bird, not bird species), into a vial of 85% achohol, and label the vial with name of bird, locality, date and name of collector. I shall be glad to receive specimens to examine, determine and return, or, if permitted, to add to my collection.

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## THE PROTHONOTARY OR GOLDEN SWAMP WARBLER (*PROTONOTARIA CITREA*) A COMMON SUMMER RESIDENT OF SOUTHEASTERN MINNESOTA.

WITH PHOTOGRAPHS FROM NATURE BY THE AUTHOR.

THE apology that I feel to be due for appearing before the Union<sup>1</sup> with a local paper of this kind, dealing as it does with a bird about which so much that is excellent has been written, is that the facts to be presented establish in no uncertain way a remarkable northward extension of the breeding range of a bird hitherto commonly regarded as of much more southern distribution.

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<sup>1</sup>This paper was read at a meeting of the American Ornithologists' Union held in Washington, Nov. 15, 1898.



Without delaying to define at length the general range of the Prothonotary Warbler it will suffice to recall to mind that it is commonly considered as breeding in abundance in the Mississippi Valley only as far north as southern Iowa and middle Illinois. Beyond this it is looked upon as merely a straggler. Ridgway, in 'Birds of Illinois,' says: "Breeding abundantly in willow swamps north to at least 40° in Illinois and contiguous States." Keyes and Williams in their 'Catalogue of Birds of Iowa' say: "Summer resident; not uncommon especially in the eastern part of the State." Records for northern Iowa and Wisconsin are infrequent and merely call attention to the capture of rare stragglers. Cook's 'Bird Migration in the Mississippi Valley' contains nothing more definite. The 'A. O. U. Check-List' for 1895 states, "Casually to New England, Ontario, and Minnesota." Dr. Hvoslef's capture of a single Prothonotary Warbler opposite the mouth of the Root River below La Crosse, August 16, 1874, though several times quoted as a Minnesota record belong properly to Wisconsin. Cantwell, in his 'List of the Birds of Minnesota,' published in the 'Ornithologist and Oölogist' for September, 1890, states, from information gathered from Johnson of Red Wing and Harrison of La Crescent: "Common along the Mississippi River in the South as at Red Wing and La Crescent; breeding at both places." In 'The Oölogist' for November, 1890, appeared a short article by Mr. Whit Harrison, of La Crescent, Houston County, Minnesota, calling attention to the Prothonotary Warbler as a regular summer resident in southeastern Minnesota. He did not at that time consider the bird common, and the article is chiefly devoted to an interesting account of some curious nesting sites selected by the species, to which reference will be made later in this paper. In 'Bulletin No. 4 of the Wilson Ornithological Chapter,' published at Oberlin, Ohio, January 15, 1895, there is a report of a nest of the Prothonotary Warbler, "taken in Goodhue County, Minnesota, June 13, 1893." In 'The Oölogist' for June, 1898, is an article by Mr. C. B. Johnson of Red Wing, Goodhue County, Minnesota, giving for the first time definite and conclusive testimony as to the regular and common occurrence of this Warbler at that locality, one hundred and fourteen miles by way of the Mississippi Valley from the southern boundary line

of Minnesota. The account is based on ten years' observations, and after giving a concise description of the nesting habits, nests and eggs, dates of arrival, etc., concludes with the statement: "It certainly should be classed as fairly common in suitable localities along the Mississippi River in southern Minnesota." This completes the literature of the subject.

The appearance of Mr. Johnson's article, offering as it did the attractive prospect of an invasion of the breeding haunts of so interesting and beautiful a bird as the Prothonotary Warbler, and in a locality so far from its ascribed range, determined the writer upon spending a week's vacation in exploring the Mississippi bottom-land in southeastern Minnesota instead of penetrating into the wilds of the Lake of the Woods region as had been planned. Leaving Minneapolis, June 20, 1898, accompanied by Mr. L. O. Dart of Litchfield, Minnesota, an earnest and competent student of birds, we began our investigations the following day at Red Wing, a point on the Mississippi River forty miles south of St. Paul. We were here very materially assisted by Mr. C. B. Johnson who kindly spent part of the first day with us and piloted us into the difficultly accessible haunts of the bird of which we were in search. So surprising were the results of the three days spent here that we decided to continue the trip down the river to the Iowa line in order to obtain a more comprehensive view of the distribution and numbers of the Warbler in question. The railroad follows closely the river bank all the way so that we were able to easily make satisfactory observations at many points. At La Crescent a day was spent and our observations were supplemented by comparisons with those of Mr. Harrison and Mr. Frank Harris, both of whom have interesting local collections of birds and eggs and have devoted no little attention to observing the birds of the immediate vicinity. Reno, six miles north of the Iowa line, was the most southerly point visited and found to be the most interesting place for field work. From this point the rugged and heavily wooded valleys of Crooked and Winnebago Creeks were explored for a distance of twelve to fifteen miles back from the Mississippi River, quite out onto the high rolling prairie region westward. The very heavily wooded Root River bottom was not visited, as Dr. Hvoslef of Lanesboro has given it



FIG. 1. NESTING PLACE OF PROTHONOTARY WARBLER.  
Near Reno, Hamilton Co., Minn.





considerable attention for years past. Immediately on our return to Minneapolis, Mr. Dart at my request went back to Hastings, a point on the River twenty miles below St. Paul, and twenty miles above Red Wing where we first saw the Prothonotary Warbler, and dropped down the river some miles in a boat to determine, if possible, the northernmost limit of distribution of the bird. In this he was fairly successful.

The bottomland of the Mississippi River, particularly from the entrance of the St. Croix River, twenty miles below St. Paul and one hundred and thirty-four miles from the Iowa line, is a broad expanse of low land three to six miles in width and enclosed between high, broken and picturesque bluffs three hundred to six hundred feet high. A portion of this low ground is open marsh and meadow land, but the greater part of it is covered with a dense growth of willow, cottonwood, aspen, box-elder and birch, and here and there are heavy forests of larger growth, with elm, maple, and butternut added, and a luxuriant growth of tangled woodbine, poison ivy, grape and other vines. The main channel of the river winds through this valley in great sweeping curves, first to one side and then far away to the foot of the bluff opposite. It is continually sending off side channels and false passages so that the entire bottomland is divided up into innumerable islands and irregular strips of land. This is particularly true of the six or eight miles lying between the head of Lake Pepin and Red Wing, and of the whole valley from La Crescent to the Iowa line. In early spring, with the first rise of the melting snow, and again during the 'June freshet,' a large part of this lowland is overflowed, often to a considerable depth, so that a boat can be run almost anywhere where the smaller undergrowth and vines do not block the way. Some portions of the bottomland are occasionally flooded quite throughout the year, and are dreary, desolate places indeed. The action of the ice in spring, combined with the effect of the floods, has resulted in the death of vast numbers of the smaller trees, particularly the willows which fringe thickly the river banks, the stagnant inlets, old channels, false passages and occasional island ponds. This grim feature of the landscape forces itself upon the attention almost everywhere and, desolate as it is, soon comes to have a peculiar interest and

charm for the bird-lover, for these flooded dead-timber areas are soon discovered to be the chosen homes of the very choicest of the feathered tribes frequenting these parts.

With this brief itinerary of our wanderings and general description of the topography of the country visited, the chief outcome of these investigations may be stated at once. At all points visited throughout this five hundred square miles of bottomland, the Prothonotary Warbler was found to be a common summer resident, and as we advanced southward toward the Iowa line it became one of the most frequent and noticeable of the birds. They were found only in the bottomland and apparently do not pass up the heavily wooded deep ravines of the tributary rivers and streams. Extensive examination throughout many miles of several of these seemingly suitable valleys revealed not a single bird of this species, and Dr. Hvoslef after years of observation in the Root River Valley, between Lanesboro and the Mississippi River, has never seen the bird thereabouts. At La Cresent and Red Wing, where some attention was given to the upland and bluffs, nothing was seen of these birds in such positions and, common as they were in the broad valley below, they would inevitably have been entirely overlooked had not their chosen haunts, to which they seemed to be so closely and persistently attached, been invaded. The most northern point to which they appeared to ascend in the valley was a short distance below Hastings (about four miles), where a single individual was seen by Mr. Dart, on July 4, 1898. This was about  $44^{\circ} 45'$  north latitude, and one hundred and thirty miles from the Iowa line by the river valley, but only eighty-five miles in a direct southerly line. Thus this species is quite generally distributed over an area one hundred and thirty miles northwest and southeast and averaging three miles in width, — in all about five hundred square miles, which is divided, probably, about equally between Minnesota and Wisconsin. A very low estimate per mile would show that certainly several thousand Prothonotary Warblers pass the summer in this valley north of latitude  $43^{\circ} 30'$ , and that at least one half of this number rear their young on Minnesota soil. Except an indefinite record (probably a mistake in identity) for the Heron Lake region there is no account of the occurrence of this bird anywhere else in the State.

The narrow strip of Minnesota territory under consideration in this paper, together with the adjoining lowlands in Wisconsin, have of late years been given a tentative and rather indefinite position on faunal charts as a northward prolongation or tongue of the Carolinian Fauna. The facts here presented may perhaps render more positive such assignment of this low-lying and sheltered valley and reveal it as being possessed of an even more definite Carolinian character than supposed. The presence of the Prothonotary Warbler in such numbers suggested that other southern birds ought to be found, but in this we were disappointed with the two following exceptions. The Louisiana Water Thrush (*Seiurus motacilla*), not found as far north as Minneapolis, was present in small numbers at Red Wing and thence southward throughout the entire valley and in the neighboring wooded lowlands to the westward. This bird is probably generally distributed throughout the timbered areas of Southern Minnesota, reaching a limit at about 44° 45' north latitude. Beyond this Grinnell's Water Thrush (*Seiurus noveboracensis notabilis*) is alone found. The other exception proved a most unexpected one. We found the Red-bellied Woodpecker (*Melanerpes carolinus*) permanently resident in the heavy timber of the bottomland in Houston County. Mr. Harrison had several specimens taken near the mouth of Root River, and assured us that they wintered in the great elm forest there found, he having seen them there in January. At Reno we shot a male Red-bellied, June 24, and saw and heard several others. They undoubtedly occur here regularly, and not so very infrequently, over a small area extending northward not to exceed twenty-five or thirty miles from the Iowa line, 43° 30' north latitude. This bird is here reported from Minnesota for the first time and from a station many miles north of the usually assigned northernmost limit of its range in the Mississippi Valley. The 'A. O. U. Check-List' for 1895 says "Southern Michigan and Central Iowa."

A glance at the vegetation of the lower part of this valley may serve to further indicate its Carolinian trend. The black walnut, red mulberry, Kentucky coffee tree, and to a more limited extent, the shell bark hickory find a foothold here, and the woods of Houston County are full of the May apple (*Podophyllum peltatum*).

The poison ivy (*Rhus toxicodendron*) is here a climbing vine, while one hundred miles further north, it is but a low shrub. Small fruits, notably cherries, and a more considerable variety of grapes and apples than occur further north, are truly hardy under the shelter of the high bluffs; and the chestnut, flowering dogwood, and trumpet creeper, can be induced to grow in cultivation in similar situations. An apple tree of the St. Lawrence variety has been growing on the farm of Mr. Harris at La Crescent for over twenty-six years, and is now a veteran with trunk some eighteen inches in diameter.

Doubtless other forms of life would bear equally clear testimony in the same direction, but unfortunately, I am unable to call them to an accounting at this time.

It does not seem worth while to enter here upon an extended account of the habits of the Golden Swamp Warbler as observed in Minnesota; since it would be but a repetition of that which has already been so ably and satisfactorily chronicled by Mr. William Brewster, W. E. Loucks, and others. Suffice it to say that everywhere, with one curious exception, the birds were nesting in holes excavated by the ubiquitous Downy Woodpecker. Nowhere did we find inhabited nests placed in natural cavities as in crevices or crannies behind loose bark, but from evidence afforded by one or two old nests apparently of this species, such places are apparently sometimes used. Given a flooded area where the long since lifeless willows were standing gaunt and gray with unsteady and crumbling trunks among the other less decrepit forms and there the Prothonotaries were sure to be, often several pairs in a tract of only a few acres.

Not unfrequently small willow, maple, and birch stubs and the dead and rotting trunks of larger trees fringing the edge of the main river channel and marking the line of the heavy forest behind were the homes of many couples. Often these stumps were but mere shells four or five inches in diameter and projecting not more than three or four feet above the surface of the water. Quite commonly they were thoroughly water-soaked, the only dry thing about them being the pretty little nest with its foundation of green moss bearing on its top the frail structure of fine grass and bark. Occasionally the nests were placed higher





FIG. 3. NEST AND EGGS OF PROTHONOTARY WARBLER, exposed in situ. Houston Co., Minn.



FIG. 4. CHARACTERISTIC RESORT OF PROTHONOTARY WARBLER. Nesting stub in foreground. Upper right hand corner, male approaching



up in dry situations and sometimes in large cottonwood and maple stumps, the latter being the places chosen when the birds frequented the heavier growing timber. About Reno, six miles from the Iowa line where the birds were particularly abundant, the sombre forest, here very heavy with muddy, oozy bottom and little underbrush, was much frequented by this bird and the forcible ringing chant of the male Prothonotary joined in the deep forest with the incessant bird chorus coming from myriads of American Redstarts, countless Vireos of several kinds, Wood Thrushes, and Catbirds, innumerable Rose-breasted Grosbeaks, an occasional Louisiana Water Thrush, and a varied assemblage of harsh-voiced Woodpeckers, with a perpetual undertone of small Flycatcher notes.

A singular departure from the natural nesting habits of the Prothonotary Warbler was observed and studied at La Crescent, and the facts are perhaps sufficiently interesting to warrant brief recital here. Goss in his 'Birds of Kansas,' and Harrison in the article in the 'Oölogist' above quoted, tell of finding this Warbler abandoning the woods, and selecting, after the fashion of the Bluebird and the House Wren, building sites about dwellings, bridges, and other structures. La Crosse and La Crescent lie on opposite sides of the Mississippi River, and an iron truss railroad bridge with long tressel work approaches connects them. Over this bridge there passes a never ceasing stream of railroad trains, and through the swinging draw a procession of boats day and night—a busy, noisy place, very unlike the peaceful calm and seclusion that reigns in the depths of the pathless and almost impenetrable expanse of wooded bottom land that stretches away on all sides. And yet here the usually shy and retiring Golden Swamp Warbler has forsaken its accustomed haunts so close at hand, and with unexpected daring and infinite pains has sought out and utilized places for rearing its young on and about this busy thoroughfare. Mr. Harrison, who for nineteen years has been draw-tender and engineer on this bridge, has long watched and encouraged this confiding trait, and has come to speak of these little companions in terms of endearment, and to look eagerly for their springtime return. He has from time to time, nailed up boxes and sections of hollow logs in seemingly most

impossible places, and they have year after year taken possession of them and built nests in them with great labor, and reared their young within a few feet of the thundering trains, clanking and creaking machinery of the draw, and escaping steam from the engine house high on the top of the draw in midstream. At the time of our visit, June 24, a pair were building a second nest in a cigar box nailed to a window casing of the engine room, carrying to this lofty, exposed position, great bunches of moss from the distant shore, with a sweeping wind blowing them hither and thither, and making the task a well-nigh impossible one. Lower down, just where the outer end of the draw came banging against the abutting pier, and not four feet from the rail, a female Prothonotary was sitting composedly on her nest, built in the bottom of a tin ventilator cap that had been knocked from a lamp box and fallen, open end up, down between the box and a girder, supporting a much used ladder. The little cup-like cap was four inches high, and three inches in diameter, and the birds had partly filled it with the usual green moss and fine grass. It contained the customary full first set of six eggs. (See Fig. 5.) Still another pair had a nest in a shallow cavity in a piece of slab wood, nailed to one of the tressel supports and close under the roadbed of the railroad.

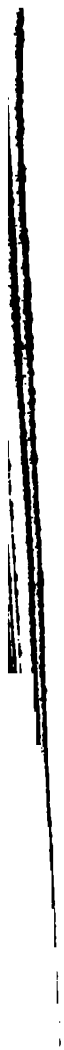
The male of the pair engaged in building in the cigar box on the engine house window had, before the box was nailed up by Mr. Harrison, investigated the entire inside of the engine room, entering by the open door. Mr. Harrison thinks the male always selects the nesting place. This one first examined carefully into the merits as a building site of the tin drinking cup hanging against the wall and then spent some time going in and out of an old soft hat that reposed in a large pigeon hole in one corner of the room. He did not abandon this indoor quest until the box outside was offered him when he at once accepted the suggestion and was soon off for his waiting mate who, after a little earnest coaxing, accepted the tenement, and they at once went to work to furnish it,—no easy task, as already described. (See Fig. 6.)

It certainly seemed most strange after having spent most laborious days in making the acquaintance of this elegant little bird in its secluded natural haunts, to find it here in all the steam, smoke



FIG. 5. NESTING PLACE OF PROTHONOTARY WARBLER in bridge over Mississippi River, opposite La Crescent, Minn. Upper right-hand figure, nest in the ventilator cap, exposed for photographing.





and noise of this exposed place. But they seemed not at all disturbed, and flitted about among the iron work of the bridge, singing the vigorous little song that rings so forcibly through the deep woods, but which was here almost lost amid the din of machinery and the whistling of the wind. Here only did I hear the other true nuptial song of this Warbler described by Brewster and mentioned by Goss. Standing by the engine house on the top of the bridge I saw the male rise from the topmost girder, and, while hovering high over the river with outspread tail and fluttering wings and head thrown back, after the manner of the Maryland Yellowthroat, deliver first the usual rapid monotone of five or six notes and then a pleasing varied warble, full and strong in some of its notes and far sweeter than the usual utterance.

This day of bird study in strange places was ended by Mr. Harrison exhibiting to us from his collection on a goodly sized cigar box containing a Prothonotary Warbler's nest and set of six eggs. The box had been nailed the year before to a small building on a pier in mid-river, and in this isolated and far-away position had been compactly filled to more than half its capacity with moss and grass, carried from the river banks by a vigorous pair of these little birds. And still further evidences of the erratic domestic fancies of the species were pointed out. One pair had alternated seasons with a family of Bluebirds in a little wooden box affixed to a low post close by a switch house, and on the edge of a platform where baggage and passengers were daily transferred. Another couple had established themselves in a cleft in one of the piles of the retaining fence at the end of the bridge; still another in a tin cup in a small barn near the bridge, entering the building through a broken pane of glass; and lastly a pair began a nest in a pasteboard box on a shelf in a little summer house by the river bank, but were disturbed before completing it. Surely a surprising record and showing this charming bird possessed of a nature capable of a degree of domestication equal to that of the Martin, Phœbe, Bluebird and House Wren.

In concluding this paper it may be fairly said, I think, that it has been clearly shown that the subject of this sketch not only penetrates in goodly numbers well up into Minnesota territory, but that it has been long and well established there; is at home

in many and diverse places; and that its regular presence in such numbers imparts to this portion of the upper Mississippi Valley a faunal coloring of rather more southern hue than was to be expected.

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## NOTES ON SOME OF THE BIRDS OF EASTERN NORTH CAROLINA.

BY J. GILBERT PEARSON.

WHILE making some investigations during the past summer (1898) in connection with the State Geological Survey, I was located from April 1 to August 20 on the North Carolina coast, at various points from Elizabeth City southward to Little River on the South Carolina border. The nature of my work was such as to permit of some opportunities for investigation of the avifauna of the regions visited, and as a result of the observations made at that time, I have prepared the following brief notes.

**Micropalama himantopus.** STILT SANDPIPER.—The region about Cape Hatteras abounded in bird life during my second stay there, which began on May 2, and continued until May 20. On the wet grassy beaches near the lighthouse birds swarmed literally by the thousands. I there observed, and with one exception secured, specimens of Least, Spotted, Semipalmated, White-rumped, and Red-backed Sandpipers; Dowitcher; Sanderling; Semipalmated, and Black-bellied Plovers (some of the latter in full summer plumage); Yellowlegs and Greater Yellowlegs; Wilson's Snipe; Turnstone; and Long-billed Curlew. On May 19, I secured a Stilt Sandpiper. It was shot singly while flying alone, no other birds on the wing being near at the time. This I believe to be the first record of the bird taken in the State.

**Nycticorax nycticorax nævius.** BLACK-CROWNED NIGHT HERON.—Information in regard to this bird's occurrence in North Carolina has been confined to a few scattering notes of single individuals which have been taken at various points. On April 30, I visited a colony of Herons which was breeding on a small island in Mattamuskeet Lake, situated in Hyde County, and counted there seventy-five nests of the Little Blue Heron, all of which contained eggs. These nests were situated in



cypress and willow trees at a distance from the ground varying from ten to twenty-five feet. Two nests of the Night Heron were found; one containing four slightly incubated eggs, the other two fresh ones. Three pairs of the birds were seen and a female which was shot contained in her oviduct an egg which probably would have been deposited in a few days. May 25 a little colony of six pairs of Night Herons was found on Great Lake near Newbern. All six of these nests were placed in a very thick, stunted cypress tree, standing out in the lake some fifty yards from the shore. None of the branches of the tree exceeded a yard in length and their outer ends were well draped with long gray moss, thus effectually screening the nests from view. The tree whose top reached but fifteen feet above the water, was capped by an Osprey's nest which contained three young. All the Herons' nests were occupied either by eggs or young birds, the number in a nest being four in each instance, except one nest which contained three fresh eggs.

In four other rookeries of Herons subsequently visited at points further south, Night Herons were seen, but in each case not over six or eight pairs were found breeding in any one colony. I am informed on good authority that quite a large colony of these birds have their breeding grounds in a swamp on Harker's Island, at the lower end of Core Sound.

**Ardea tricolor ruficollis.** LOUISIANA HERON. — On April 20, at Cape Hatteras, while standing on the sand at the very point of the cape, a Louisiana Heron was closely observed as it flew directly overhead, making for the shore and laboring with a strong southwest wind. A most thorough search of the swamps and ponds in the neighborhood failed to reveal any colony of nesting birds, and no other individuals were met with until reaching Beaufort.

At the upper end of a small mill-pond a mile or more long, located in Carteret County, about fifteen miles from Beaufort, there was found a small but very interesting colony of Herons. Two dozen nests of the Louisiana Heron were noted here and the birds could be obtained with but little trouble. At this date many of the eggs had hatched but there were yet several sets of fresh ones to be seen.

Between this point and South Carolina three other places were visited where these birds were nesting. In one of the larger rookeries in Brunswick County there were on the first of June fully 500 pairs of breeding birds of this species.

During July and early August young Louisiana Herons and their parents come out of the fresh-water swamps in numbers and may be seen any day feeding, singly or in small flocks, along the marshes between Beaufort and Southport. It seems a little strange that so conspicuous and common a bird as this should never before have been mentioned in the lists of North Carolina birds.

**Guara alba.** WHITE IBIS. — The flat marshes which line the banks of North River, three to seven miles northeast of Beaufort, are the feeding

grounds during the entire year of numbers of birds which haunt such regions. In summer hundreds of Herons resort there to feed. There also in summer is occasionally seen the rare bird known to local sportsmen as the 'Mountain Curlew.' While up the river some five miles from its mouth I secured on July 26, a specimen of this bird from a flock of three individuals. It proved to be an immature White Ibis. I could get no account from any of the inhabitants of that region of this species having been seen there in its white phase of plumage. This bird has not, I believe, before been included in the avifauna of the State.

**Anhinga anhinga.** ANHINGA; WATER TURKEY.—While approaching a colony of Herons on the margin of the large rice-pond of the Orton plantation, on the west side of Cape Fear River, fifteen miles below Wilmington, on June 7, an Anhinga was flushed from its nest in a cypress tree about ten feet above the water. The bird flew rapidly away for perhaps thirty rods, then, turning, came driving back overhead, only to return shortly from the opposite direction. At each approach it appeared higher in the air until at a considerable altitude, when it began to circle on motionless wings. The bird was secured by hiding near the nest and shooting it when it alighted near. It was a male in magnificent plumage. Another male bird was seen but no females were observed nor were any other nests found. The nest examined was a heavy structure of sticks and twigs, lined with gray moss (*Tillandsia usneoides*). It contained four badly incubated eggs. I am aware of no previous record of the bird breeding north of South Carolina.

**Phalacrocorax dilophus floridanus.** FLORIDA CORMORANT.—These birds have for some time been known to spend the summer months on our coast, but it was not until the 25th of last May that I was able to locate a breeding colony. After penetrating the woods, swamps, and fresh-water marshes in Craven County for a distance of ten miles or more from the small railway station of Havelock, I at length reached the beautiful secluded sheet of water known as Big Lake. This body of water is approximately five by seven miles in extent. The shore is lined for two thirds the distance by a dense cypress swamp, the remaining third being clothed with a barren pine pocosin. The forest everywhere comes down to the water's edge, and many cypress trees and stumps stand out in the lake for a distance of one or two hundred yards. Many of those trees were capped with Osprey's nests. Along the north side of the lake the Cormorants had their breeding place. Low spreading cypress trees, their tops reaching as a rule not more than twelve to fifteen feet above the water, and standing from fifty to two hundred yards from shore, were the sites chosen for the nests. Eighteen trees, scattered along the shore for a mile and a half, were thus used. A few trees contained only one nest each, some were occupied by two, while in several others six, eight, ten, and twelve were noted. One tree held thirty-eight occupied nests. The number of occupants to the nest, either eggs or young birds, varied from two to three. Many of the young were

old enough to walk about on the limbs of the trees. In all 150 inhabited nests were counted.

The trees holding a number of nests each were evidently old breeding places, for the trunks, limbs, twigs, and every nest was as white from the dried excrement of the birds as though buckets of whitewash had been thrown over all with a generous hand. All signs of life had gone out of the trees save a few bunches of green leaves at the extreme ends of some of the smaller twigs.

No other colony of Cormorants was located, although a roost containing some 200 birds was discovered in an adjoining county.

**Stercorarius parasiticus.** PARASITIC JAEGER.—These birds are reported by fishermen and life saving station men to occur along our coast during the fall of the year, at which time they are often seen chasing Gulls in order to secure their disgorged prey.

In looking over the collection of a taxadermist, Mr. A. Piner, at that time located in Morehead City, N. C., the owner showed me some strange birds which he had taken at various times and for which he had no name. Two of these proved to be Razor-billed Auks (*Alca torda*) taken in Lookout Cove, "sometime after Christmas in the winter of 1890." Another bird which he had secured near Cape Lookout in the autumn of 1897 I found to be an immature *S. parasiticus*. Neither this bird nor the following named species are included in the list of North Carolina birds, published by Atkinson in 1887, or the one issued by Smithwick in 1897.

**Oceanites oceanicus.** WILSON'S PETREL.—This Petrel is well known to all who have occasion to spend much time on the ocean off the Carolina coast in summer. The birds are seldom seen near the shore unless during windy weather, when on such occasions they are often present in large numbers. During the severe storm which raged on the coast August 28, 29, and 30, 1893, many thousands of these birds were driven and washed ashore along the line of beach extending from the mouth of Beaufort Harbor to Cape Lookout, a distance of ten miles. I have this information from several reliable parties. The date of the storm was taken from the log-book of Capt. Wm. H. Gaskin of the Cape Lookout Life Saving Station.

Mr. James Davis, a well known business man in Beaufort, who had occasion to go along the beach to a wreck just after the storm, says: "Every two or three yards lay a Mother Cary's Chicken; many were dead, others were alive but too weak to fly. In places two or three would be lying together; at certain points for a distance of many feet the ground would be completely covered with the bodies, sometimes piled two or three deep. This was frequently the case until I reached the bight of the cape. Here in the cove the slaughter had been tremendous. Thousands of birds sat or lay on the ground, covering the beach like a blanket, extending from the water's edge up into the grass on the higher

ground. The fishermen of the neighborhood carried home with them baskets filled with these birds to eat."

*Cistothorus palustris griseus*. WORTHINGTON'S MARSH WREN.—A Wren taken in the salt marshes at old Topsail Inlet, near Beaufort, on August 2, was identified by Prof. Robert Ridgway as being *C. p. griseus*. The birds seemed not uncommon in certain of the marshes and several unoccupied nests were examined. In the marsh on Gull Island, in Pamlico Sound, about twenty miles north of Cape Hatteras, Marsh Wrens were found in numbers on May 20. Twelve nests were examined, but no eggs or young were found. A specimen taken at this place was pronounced by Mr. C. S. Brimley of Raleigh, N. C., to be *griseus*. Wrens heard singing in the marshes about Southport on June 9, I took to be of this variety, but I did not secure any specimens and hence cannot be positive as to this identification.

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## SOME WINTER BIRDS OF NOVA SCOTIA.

BY C. H. MORRELL.

I was in Cumberland County, Nova Scotia, from the first of December, 1897, until the fourth of April, 1898, and though collecting was not the object of my visit, careful observations were made and notes taken of the birds seen during that time. The variety of species to be found there at that period is not extensive. December, the first week in January, the last week in February and the month of March was spent on the shore of Chignecto Bay, principally at Shulee, though some time was spent at Joggins, River Hebert and Amherst. During the greater part of January and February I was at Parrsboro on the Basin of Minas. There was little snow in December, the ground being bare most of the time, and no very cold weather. The principal snowfall was in January and February, and the coldest weather was during those months. Several severe storms occurred. March was exceptionally fair and pleasant. The sun shown warm from almost cloudless skies and under its influence the snow melted rapidly, the migrants began to arrive, and the winter birds were soon in full song.

The growth from Joggins to Shulee is mainly spruce, though some hard wood grows on the higher ridges. The shore is lined with rugged cliffs which are wooded to the edge in most places. Spruce also prevails about Parrsboro though there the woods have been cut away and there is more open country. Amherst is in the midst of rich farming land and is surrounded by broad fields and marshes.

In addition to those mentioned, several species of Gulls and Ducks were seen but as no specimens were taken they could not be positively identified. A list of the species seen is appended.

1. *Gavia imber*. LOON.—One seen in the bay near Joggins, Dec. 7.
2. *Larus argentatus smithsonianus*. AMERICAN HERRING GULL.—Common on both shores.
3. *Anas obscura*. BLACK DUCK.—Common along shore all winter.
4. *Harelda hyemalis*. OLD SQUAW.—Frequently seen about the shores at Parrsboro.
5. *Branta canadensis*. CANADA GOOSE.—A flock of 12 seen at Joggins Dec. 7. The returning migrants arrived early in March.
6. *Canachites canadensis*. CANADA GROUSE.—The 'Spruce Partridge' was called a common bird by residents. I did not see it.
7. *Bonasa umbellus togata*.—CANADIAN RUFFED GROUSE.—An abundant resident.
8. *Bubo virginianus*. GREAT HORNED OWL.—Once seen and frequently heard.
9. *Dryobates villosus*. HAIRY WOODPECKER.—One seen at River Hebert, Dec. 8, and one at Shulee, Jan. 2. Seemingly not common.
10. *Dryobates pubescens medianus*. DOWNY WOODPECKER.—A common resident.
11. *Picoides americanus*. AM. THREE-TOED WOODPECKER.—Through the kindness of Messrs. Edward and Robert Christie I visited their logging camp on March 16. The camp is four miles in the spruce growth, about equal distance from River Hebert and Two Rivers. It was a favorite locality for many birds. While there I heard Woodpeckers drumming and soon located three of this species. After drumming for some time they came down to the dried tops of spruces of previous cuttings which were everywhere, and worked about over them. They were very fearless and I stood within two yards of each in turn and watched them for some time. Two were males with golden crown; the third was evidently a female. These three were the only ones seen.
12. *Cyanocitta cristata*. BLUE JAY.—Frequently seen toward spring.
13. *Perisoreus canadensis*. CANADA JAY.—A common resident. Very fearless, coming about the buildings for scraps. I saw birds with grass in their bills late in March. They evidently nest in April.

14. *Corvus corax principalis*. NORTHERN RAVEN. — Not common. A pair seen at Shulee and another pair at Partridge Island, near Parrsboro.

15. *Corvus americanus*. AMERICAN CROW. — Common all winter.

16. *Quiscalus quiscula æneus*. BRONZED GRACKLE. — Migrants arrived at Shulee, March 22.

17. *Pinicola enucleator*. PINE GROSBEAK. — Abundant during December and first two weeks of January, after which none were seen, with the exception of one pair seen at Shulee April 3. Nearly all were in the dull plumage of female and young male. I did not see a full plumaged adult male.

18. *Carpodacus purpureus*. PURPLE FINCH. — A pair seen at Shulee January 2.

19. *Loxia curvirostra minor*. AMERICAN CROSSBILL. — I did not see this species until March when it became common. At that time the males were in full song, and the birds were paired, male and female always being seen together. If in flocks an equal number of each sex was present. The males of this and the following species sing well. Both sang much on fluttering, tremulous wings high above the tops of the spruces. I judged both species would nest in April. I was informed by Messrs. Christie that Crossbills were common about their camp all winter.

20. *Loxia leucoptera*. WHITE-WINGED CROSSBILL. — Seen at the same time and under same conditions as the preceding, but was more abundant. The species were often associated.

21. *Spinus pinus*. PINE SISKIN. — Small flocks were occasionally seen at Shulee and River Hebert in December. None were seen at Parrsboro. When I returned to River Hebert in March I found them by far the most abundant bird. There were thousands scattered throughout the spruces all along the shore, not in large flocks, but quite evenly distributed over many square miles of woodland. They were in full song and from sunrise until sunset their lisping notes were constantly heard. On the 16th of March while at Christie's camp I saw a bird gathering material and by watching her soon located the nest. The female alone carried material, the male accompanying her to and from the nest, singing constantly. A very short stop was made at the nest. Evidently some material was accumulated before it was arranged. A day or two after finding the nest I went to Shulee, so had no opportunity to again visit the nest until the 29th, when I left Shulee early in the morning, going to Two Rivers and thence through the woods to the camp. At this date the ground was mostly covered with snow in the woods, though it was rapidly melting. I found the nest completed. The bird refused to leave the nest until I was nearly within reach; she remained near, several times returning to the eggs for a moment. The nest was placed well out toward the end of a limb of a spruce tree, 27 feet above the ground. It was saddled on the limb and radiating twigs but not attached to them. Considering the size of the bird, it is quite large, rather flat

and bears no resemblance to nests of *Spinus tristis*, measuring as follows: height, 1.63 inches; depth, .75; outside top diameter, 4 inches; inside top diameter 2 inches. It is constructed mainly of dark pendulous tree-moss, with some fulvous bark from weed-stalks, plant-down, usnea, and other mosses. About the bottom of the nest is woven a few spruce twigs. The lining is entirely the pendulous moss. It contained four eggs but slightly incubated. These have a pale blue ground color, slightly darker than eggs of *Spinus tristis*, somewhat sparingly marked about the larger end with pale purplish and a few dots of brownish black. The eggs measure respectively, .66 X .50, .66 X .46, .63 X .49, .63 X .48, inches.

22. *Passerina nivalis*. SNOWFLAKE. — First seen at Parrsboro, January 19. Not very common, but three to twelve birds found in a flock.

23. *Passer domesticus*. ENGLISH SPARROW. — Common everywhere, even in the lumbering towns some distance from railroads.

24. *Spizella monticola*. TREE SPARROW. — Two seen at Parrsboro in company of three Slate-colored Juncos, on January 26.

25. *Junco hyemalis*. SLATE-COLORED JUNCO. — Seen several times during the winter at Parrsboro. Migrants arrived at Shulee on March 18 and in a few days the birds were abundant. They are locally called 'Bluebirds.'

26. *Melospiza fasciata*. SONG SPARROW. — One seen at Partridge Island pier, near Parrsboro, on Feb. 12, and in the same place on several subsequent days. Migrants reached Shulee March 22, becoming common at once.

27. *Passerella iliaca*. FOX SPARROW. — A flock of migrants was seen March 29. They were in song.

28. *Ampelis cedrorum*. CEDAR WAXWING. — A flock of 10 seen in the city of Amherst March 1.

29. *Sitta canadensis*. RED-BREASTED NUTHATCH. — Common all winter.

30. *Parus atricapillus*. CHICKADEE. — A common resident.

31. *Parus hudsonicus*. HUDSONIAN CHICKADEE. — Abundant. Often seen accompanying the preceding. They are readily distinguished from *P. atricapillus* by their note alone.

32. *Regulus satrapa*. GOLDEN-CROWNED KINGLET. — Abundant. I was never in the woods any length of time without meeting a flock. In March I frequently heard the summer nesting song.

33. *Merula migratoria*. AMERICAN ROBIN. — A pair seen at Shulee in a dogwood tree feeding on the berries on Dec. 24, and one was seen in the same place next morning. I was informed that a pair had wintered there several times. Migrants arrived March 28.

NEW SPECIES, ETC., OF AMERICAN BIRDS.—IV.  
FRINGILLIDÆ (Concluded); CORVIDÆ (Part).

BY ROBERT RIDGWAY.

*Curator of the Division of Birds, U. S. National Museum.*

(By permission of the Secretary of the Smithsonian Institution.)

*Pipilo maculatus atratus.* SAN DIEGO TOWHEE.

Similar to *P. m. megalonyx* but decidedly darker, with white markings of wings and tail more restricted; adult male continuously deep black above (except for the usual white markings), even the rump being deep black, instead of more or less conspicuously grayish; adult female with throat and chest very dark clove brown or sooty black, and general color of upper parts deep clove brown.

Southern coast district of California, south of Sierra San Fernando and Sierra San Gabriel, and south into Lower California.

Type, No. 159474, U. S. Nat. Mus., ♂ ad., Pasadena, Los Angeles Co., California, Feb. 8, 1896; Joseph Grinnell.

*Pipilo fuscus potosinus.* BARRANCA TOWHEE.

Similar to *P. fuscus* but larger, paler, and grayer, the pileum paler and more frequently tinged with rusty brown; buff of gular area paler, with surrounding dusky triangular spots averaging smaller and not so black; color of under tail-coverts, etc., slightly paler (dull ochraceous or ochraceous-buff rather than cinnamon-tawny).

Central plateau of Mexico, from States of Puebla, Vera Cruz (western edge), Hidalgo, San Luis Potosí, Guanajuato, etc., northwestward to southern Chihuahua.

Type, No. 78106, U. S. Nat. Mus., ♂ ad., Guanajuato, Mexico; A. Dugès.

*Aimophila rufescens sinaloa.* SINALOA SPARROW.

Similar to *A. r. pallida* but back and scapulars decidedly paler and grayer, under parts more buffy (chin, throat, and malar stripe pale buffy



instead of white and sides and flanks deep buff washed with olive, instead of light buffy olive), brown postocular streak much narrower, sides of head lighter gray, and bill shorter and relatively deeper.

Western slope of Sierra Madre, State of Sinaloa, northwestern Mexico.

Type, No. 8393, California Academy of Sciences, ♂ ad., Tatemalis, Sinaloa, May 28, 1897; W. W. Price.

*Cyanocorax affinis zeledoni*. TALAMANCA JAY.

Similar to *C. affinis* Pelzeln, of Colombia, but decidedly brighter colored, with under parts of the body and tips of rectrices distinctly yellow (light creamy yellow) instead of white or yellowish white.

Isthmus of Panama to Costa Rica (Talamanca).

Type, No. 67972, U. S. Nat. Mus., ♂ ad., Talamanca, Costa Rica; José C. Zeledon.

Those who have recognized two geographical forms of this species have restricted the name *affinis* to this form and called the Colombian bird *Cyanocorax sclateri* Heine. The type of *C. affinis*, however, came from Bogota, and the original description gives the color of the underparts, etc., white. Furthermore, having compared birds from Bogota and Cartagena (the type locality of *C. sclateri*), I can discover no difference between them.

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*Cyanolyca mitrata*.

This name is proposed as a substitute for *C. ornata* (*Pica ornata* Lesson, 1839), the latter name being preoccupied by *Pica ornata* Wagler, 1829, for a species of the Asiatic genus *Cissa*.

*Perisoreus obscurus griseus*. GRAY JAY.

Similar to *P. obscurus* but decidedly larger (except feet) and coloration much grayer; back, etc., deep mouse gray, instead of brown, remiges and rectrices between gray (No. 6) and smoke gray, instead of drab gray, and underparts grayish white instead of brownish white.

British Columbia, Washington, Oregon, and northern California, east of the Coast and Cascade ranges.

Type, No. 156543, U. S. Nat. Mus. (U. S. Biol. Survey Coll. No. 5269), ♂ ad., Keechelus Lake, Kittinas Co., Washington, August 15, 1897; Dr. A. K. Fisher.

*Cyanocitta stelleri azteca*. AZTEC JAY.

Similar to *C. s. diademata* (= *Cyanura macrolopha* Baird<sup>1</sup>) but neck, back, and scapulars dull blue, instead of brownish gray, crest more or less tinged with blue, and the general blue color much deeper (rump, underparts, etc., azure blue instead of pale blue or turquoise blue, the wing-coverts, secondaries, and tail dull paris blue instead of dull cobalt blue); streak on forehead more tinged with blue.

South-central Mexico, in the States of Vera Cruz (Orizaba, etc.), Puebla, Morelos, Mexico, and Michoacan.

Type, No. 35156, U. S. Nat. Mus., Mountains near Mirador, Vera Cruz, June, 1864; C. Sartorius.

The name *Cyanocitta galeata* Cabanis is a synonym of *C. s. coronata* (Swains.), Cabanis, like Sharpe, having incorrectly applied the name *coronata* to the present form.

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## DESCRIPTION OF A NEW *GEOTHYLPIS*.

BY HARRY C. OBERHOLSER.

THE form of *Geothlypis trichas* inhabiting the Pacific coast region of the United States appears to be subspecifically distinguishable from that of the interior, to which it has heretofore been referred. As the type of *Geothlypis t. occidentalis* came from the Truckee River, Nevada, and thus represents the bird of the latter area, it is the purpose now to separate the Pacific race under the name

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<sup>1</sup> The name *Cyanocitta diademata* or *Cyanocitta stelleri diademata* has been quite universally misapplied to the form of southern central Mexico, here renamed as above. The type locality of Bonaparte's *Cyanogarrulus diadematus* is Zacatecas, on the western side of the Mexican plateau; and specimens collected there by Mr. Nelson are distinctly referable to the Rocky Mountain form which Prof. Baird later named *Cyanura macrolopha*. It therefore becomes necessary to use the name *diademata*, instead of *macrolopha* for the Rocky Mountain bird, and to rename the bird to which the name *diademata* has been erroneously applied.

***Geothlypis trichas arizela*, subsp. nov.**

CHARS. SUBSP. — *Geothlypis G. t. occidentalis similis sed minor, verticis fascia albida magis restricta.*

Al., 53.5–59 (57.1) mm.; caud., 50–58.5 (54.4) mm.; culm. exp., 10–11 (10.4) mm.; tars. 19.5–21 (20.2) mm.

*Geographic Distribution.* — Pacific coast region from southern British Columbia to northern Lower California; east to the Cascade Mountains and to the west slope of the Sierra Nevada; south in winter to Cape St. Lucas and Tepic.

*Description.* — Type, male adult, No. 7918, U. S. Nat. Mus.; Fort Steilacoom, Wash., May 13, 1856; Dr. Geo. Suckley. Upper surface dull olive green, clearer on the rump, more brownish on the crown; tail olive green, brighter exteriorly; wings fuscous, margined externally with olive green; forehead and sides of head back to and including auriculars black, bordered posteriorly by a rather narrow creamy white band, broadest on the forehead; throat and breast bright yellow, shading gradually into the creamy buff of abdomen; crissum yellow, rather paler than throat; sides conspicuously washed with brownish; bend of wing below yellow; lining of wing buffy.

*Young in first plumage.* — No. 101497, U. S. Nat. Mus.; Fort Klamath, Oregon, July 20, 1883; Major Chas. E. Bendire. Above nearly uniform warm olive brown, inclining to olive green on the rump; wings and tail as in the adult, but the greater and median wing-coverts broadly tipped with ochraceous; lores dull yellowish; sides of head and neck like the back; chin dull buffy yellowish; throat and breast yellowish, washed with brownish; abdomen buffy; sides heavily tinged with brown; crissum olive yellow.

From *occidentalis* the present race may be readily distinguished by its much narrower white frontal band, and also by its appreciably smaller size; though the former character is of course not available for determination of females and young. It differs from *trichas* as does *occidentalis*, but in dimensions not to so marked a degree. Intermediates between *trichas* and *occidentalis* such as occur on the Great Plains, come sometimes rather close to *arizela*, but the larger size of the latter, together with the usually much less ashy shade of the light markings on the head, will serve to distinguish the majority of specimens.

A June bird from Tecate Valley, Lower California, seems to be quite typical; one of similar season from Owens Lake, California, though intermediate, is, so far as may be judged from a single individual, nearer *arizela* than to *occidentalis*. The solitary

specimen from Comox, British Columbia, has a wider frontal band than any other example of *arizela*, but as in size it does not differ, this may be but an individual variation, since by geographical reasoning the Yellow-throats from southern Vancouver Island should belong to the present form.

Following is a list of the localities from which specimens of *arizela* have been examined, an asterisk indicating the breeding records:

British Columbia.—Comox.

Washington.—Fort Steilacoom\*; Chiloweyuck Depot\*; Shoalwater Bay.

Oregon.—Fort Klamath\*; Plush\*.

California.—Owens Lake\*; Carberry's Ranch\*; Stockton.

Lower California.—Tecate Valley (Mex. Bound. Line)\*; La Paz; San José del Cabo.

Sinaloa.—Mazatlan.

Tepic.—Tepic.

For comparison, the average measurements of five adult males of each of the three forms here mentioned are appended:

NAME.	Wing.	Tail.	Exposed Culmen.	Tarsus.
<i>Geothlypis trichas trichas</i> . .	53.9	48.9	10.7	20.
<i>Geothlypis trichas occidentalis</i> .	59.3	55.1	11.1	21.1
<i>Geothlypis trichas arizela</i> . .	57.1	54.4	10.4	20.2

The writer would here express his appreciation of the kindness of Mr. Ridgway and Dr. Merriam, with regard to the use of the material from which this paper has been prepared.

## THE TERNS OF MUSKEGET AND PENIKESE ISLANDS, MASSACHUSETTS.

BY GEORGE H. MACKAY.<sup>1</sup>

THE change in conditions taking place from time to time in the Muskeget group of islands, where these birds breed, as also in the birds themselves, serves to retain one's interest and render continued observations desirable, that accurate information may be gathered.

Since last year nearly one third of Gravelly Island has been washed away. Adams Island has also been much reduced in area. At the South Point of Muskeget Island proper, the ocean has again broken through at the same place where it did four and five years ago, making South Point Island again an island.

It was with much concern, after visiting Muskeget waters last season (1897), that I looked forward to the season of 1898, and what it might have in store, for it seemed as if additional effort should be made, not only to keep all the Terns possible, but to induce those which had departed to again return. The town of Nantucket having voted one hundred dollars to provide an especial police officer (under an act of the Massachusetts Legislature of 1895) to care for these Terns, I was instrumental in having Mr. John Sandsbury appointed to the position. He remained on Muskeget from May 1 to August 15, 1898. His first visit there was from the 9th to the 17th of April, and during this period he did not see any Least Terns (*Sterna antillarum*), although this is the time they are generally about. On May 3, 1898, the wind was northeast, cold and raw; May 4, wind northeast, until noon, calm in the P. M.; May 5, wind southwest, moderate and cloudy. May 6, wind north to northeast, cloudy in the A. M., but changed to southwest in the P. M. At seven o'clock A. M. the first arrival of Terns this season was noted,—a few birds, so high up in the air as to render the variety indeterminable. May 7, wind northeast. Mr. Sandsbury saw about

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<sup>1</sup> Read before the Nuttall Ornithological Club, Nov. 7, 1898.

fifty Terns, and for the first time he heard, in the afternoon Laughing Gulls (*Larus atricilla*), although he saw none. On May 9 the Wilson Terns were very numerous around Gravelly Island shoals; a very few Roseate Terns (*Sterna dougalli*) were noticed among them. By May 18 new warning notices had been prepared and posted on the various islands.

On this date the Terns were observed carrying straws, etc., for their nests. On May 25 the first eggs of the season were discovered,—five nests containing one egg each. On May 27 Mr. Sandsbury walked across Muskeget Island proper and back again in nearly a straight line, and noted eight nests containing one egg each, and two nests containing two eggs each. By June 8 the Terns were abundant. Mr. S. again walked across Muskeget Island proper, as before, and noted thirty-one nests containing one egg each; sixty-six nests with two eggs each, and ten nests with three eggs each. On June 21 he walked across the centre of Muskeget proper and noted nine nests with one egg each, sixty-two nests with two eggs each, nineteen nests with three eggs each, and thirteen nests with four eggs each.

On June 24, Mr. S. searched for Laughing Gulls' nests and discovered eight containing two eggs each, and three nests containing three eggs each, these being the first noted this season (1898). On this date he observed three Tern chicks, two of which were just out of the shell and still wet, the other was in the down. It was singular to find that the one colony of Laughing Gulls, breeding on Muskeget proper, should have selected as a breeding place this season the abandoned site of the old life-saving station, which is less than half a mile from the present one. Here I found the old birds using all the old posts as lookout stations, and the top of the flag-pole, the favorite place of all, was constantly in demand, and frequently it was struggled for by two or more birds. Near by were their nests, eggs and chicks. In consequence of the care exercised the birds have enjoyed an unmolested season and most favorable breeding conditions, the results of which have surpassed my highest expectations.

The number of eggs observed, by actual count after a most exhaustive examination of all the breeding islands in Muskeget

waters, shows that these birds are at the highest point of abundance in their history. This satisfactory condition does not include the Roseate Terns; as far as these waters are concerned, their numbers, I regret to state, are still below the splendid aggregate of 1896. I think that some of them found a home at Penikese Island this season, while others may return next year. After completing this investigation I was unable to use my eyes but little for three weeks, the result of the radiated heat and glare from the beaches.

I passed July 2, 3, 4 and 5, 1898, on Muskeget and adjacent islands, the results of which examination are here submitted:

GRAVELLY ISLAND, JULY 2, 1898.

*Terns.*

<i>Nests.</i>		<i>Eggs.</i>	
1 egg each,	66	66	Live chicks, 23.
2 eggs "	276	552	Dead chicks, 5.
3 " "	65	195	8 nests of one egg and 1 chick.
4 " "	4	16	1 nest of 2 eggs and 1 chick.
5 " "	1	5	2 nests of 1 egg and 1 chick dead.
Totals,	<hr/> 412	<hr/> 834	

*Laughing Gulls.*

1 nest with 1 egg; 1 nest with 3 eggs.

Three quarters of the Terns estimated to be domiciled here are Wilson Terns (*Sterna hirundo*), the other quarter being Roseate Terns (*S. dougalli*). There are but four or five pairs of Laughing Gulls breeding here.

I observed on this island the present season the greatest concentration of Terns' eggs I have ever seen. The location was a slightly elevated, isolated knoll of sand on the beach, covered with beach grass (*Ammophila arundinacea*). To ascertain its size I paced it, and found it to be about 24 × 18 feet. I then subdivided it and called up Mr. Sandsbury to aid me in the count. In this restricted area were eighty Terns' eggs, as follows: eleven nests with one egg each; twenty-six nests with two eggs each; four nests with three eggs each. There were four nests containing one egg and one chick each, and one nest with one egg and two chicks, and two chicks away from their nest.

## ADAMS ISLAND, JULY 2, 1898.

*Terns.*

<i>Nests.</i>		<i>Eggs.</i>	
1 egg each,	90	90	Live chicks, 15.
2 eggs "	168	336	Dead " 1.
3 " "	31	93	4 nests of 1 egg and 1 chick each.
4 " "	6	24	
5 " "	none	none	
Totals,	295	543	

It will be noticed that this island, which is situated near the others, now appears for the *first* time as a breeding resort. Heretofore there have been several small fishermen's huts here which have been occupied in recent years during the birds' breeding period. Different conditions, however, prevailed this year, owing to the disappearance of the shell-fish, huts and fishermen, and this island, formerly a portion of Muskeget proper (I have walked to it in former years), has again resumed its primitive condition. The birds having nothing to disturb them there the present season, took possession of the island, and I found a colony of about four hundred *S. hirundo* and *S. dougalli* breeding with the gratifying result shown above.

## SOUTH POINT ISLAND, JULY 2, 1898.

*Terns.*

<i>Nests.</i>		<i>Eggs.</i>	
1 egg each,	226	226	Live chicks, 159.
2 eggs "	519	1038	Dead " 21.
3 " "	91	273	26 nests with 1 egg and 1 chick.
4 " "	8	32	1 nest with 2 eggs and 1 "
5 " "	1	5	
Totals,	845	1574	

*Laughing Gulls.*

1 egg each,	2	2	Live chicks in down away from nest, 5.
2 eggs "	6	12	1 nest with 1 egg and 2 chicks in the down.
3 " "	8	24	1 nest with 2 eggs and 1 chick in the down.
Totals,	16	38	



As will be perceived, this island continues to hold its own with the most favorable showing of any of the other breeding resorts. I again noted this season, as I have in previous years, considerable difference in the size of the Tern chicks found here. I attach no importance to this variation, it undoubtedly being due to the different dates of hatching. The Laughing Gull chicks were about all of one size.

SOUTH POINT OF MUSKEGET ISLAND, JULY 4, 1898.

*Terns.*

<i>Nests.</i>		<i>Eggs.</i>	
1 egg each,	111	111	Live chicks, 67
2 eggs "	161	322	Dead " 11
3 " "	24	72	11 nests with 1 egg and 1 chick
4 " "	2	8	2 " " 2 eggs and 1 "
5 " "	none	none	
Totals,	<u>298</u>	<u>513</u>	

*Laughing Gulls.*

<i>Nests.</i>		<i>Eggs.</i>	
1 egg each,	none	none	
2 eggs "	1	2	Also noted five empty nests.
3 " "	2	6	
Totals,	<u>3</u>	<u>8</u>	

MUSKEGET ISLAND, JULY 3, 1898.

*Terns.*

<i>Nests.</i>		<i>Eggs.</i>	
1 egg each,	173	173	Live chicks, 83
2 eggs "	385	770	Dead " 26
3 " "	95	285	3 nests with 1 egg and 1 chick.
4 " "	4	16	3 " " 2 eggs " 1 "
5 " "	1	5	1 nest " 3 " " 1 "
Totals,	<u>658</u>	<u>1249</u>	

*Laughing Gulls.*

<i>Nests.</i>		<i>Eggs.</i>	
1 egg each,	3	3	Noted a number of empty nests,
2 eggs each,	9	18	the eggs of which had probably
3 " "	7	21	been previously hatched. I saw
Totals,	<u>19</u>	<u>42</u>	but few chicks, however.

The birds were breeding this season most abundantly at the east and west ends of the island. While walking over the island on July 1, Mr. Sandsbury saw a Wilson Tern suddenly fall nearly at his feet from the air. On examining the bird, which was apparently nearly dead, he could find nothing out of the way; smoothing its feathers, he laid it on its breast on the sand, and placing an upright stick beside it, that he might find it on his return, he left it. It was not there on his return, and as no one had been in view meanwhile, he supposes the bird recovered and flew away.

Soon after my visit I learned from Mr. S., and later from others, that quite a number of Wilson Terns had been found dead on *this* island, with no apparent injury externally, their plumage being unruffled. Mr. S. estimated the number he had seen at thirty. None were observed on any of the other islands. No Roseate Terns were noted among these dead birds, although Mr. S. looked for them. They were apparently all Wilson Terns (*S. hirundo*), with the exception of two birds, which he described as having *very dark* breast feathers. It is probable that these were Arctic Terns (*S. paradisaea*), as he found them in the locality most frequented by them. It has been rather rare in my experience to find dead adult Terns lying about on any of the islands. I cannot recall over two or three in half a dozen years. I have no facts to offer in explanation. A good many young Terns just about to fly, were also found dead by Mr. S. this season, but on consulting with him later we concluded that the mortality was only normal.

I noticed fewer Arctic Terns this season than formerly, but I am not sure that their former numbers have decreased. I saw two or three on Muskeget proper, near the middle of the island, on July 3, one of which was particularly aggressive.

Of the eggs discovered this season all were normal with the exception of one clutch of two Roseate? eggs taken on July 4. The ground color of one of these was white, with the faintest tinge of green, with fine pen-point brown dots sparsely distributed over the whole egg, increasing in density, but only occasionally in size, towards the larger end of the egg; the other egg was of similar size and normally dark colored.

## PENIKESE ISLAND.

In presenting my account of the Colony of Terns domiciled on Penikese Island, in Buzzards Bay, it gives me pleasure to acknowledge the aid I have received, in various ways, from the Messrs. Homer Brothers, owners of the island. Mr. Frederick A. Homer has, at my request, kindly taken some notes for me during the past season (1898) which add so materially to the interest and value of this contribution that I feel I cannot do better than to embody the greater part of his letter on this subject, as follows: "On the afternoon of May 10, with fair weather and south wind, the Terns of Penikese arrived, and in larger numbers than for years. This latter statement is confirmed by the fishermen who harbor at the island, and by the inhabitants of the neighboring island of Cuttyhunk. On the 28th of May the first eggs were seen, and from this date the eggs increased rapidly, and finally proved the largest laying in my experience. On the 23d of June hatching commenced, and on the 22d of July about one half the young could fly, and by the 7th of August, *all* the young were on the wing. The young were in great numbers, and I fully believe it was the largest and most successful hatch for years. Naturally there were a great many crippled young, caused by the sheep treading upon them in their early infancy. I should estimate the number of such crippled birds at about two hundred. During the week ending August 21, great bodies of these Terns would rise suddenly from the shores, fly out over the water about a quarter of a mile, then wheel, return, and alight, then as suddenly rise again and repeat the manœuvre. This they repeated for a few days and then left the island in squads, till, on the 21st, they had almost entirely disappeared. The weather during this period was fair and the prevailing wind southwest.

"What few Terns were left (about one hundred and fifty) seemed to be caring for the weaker birds and cripples. These finally decreased day by day till on the 11th of September not a Tern was in sight. I have observed more Roseate Terns than ever before. I also noted that the nests generally were better constructed, and were really more like a nest.

"Gull Island seemed this year to be quite a favorite place for

the Terns and large numbers made their home there. I visited this island once during the infancy of the young and the air was full of the older birds, and very savage they were, too. There were also more birds on the mainland than I have ever noticed before.

"In conclusion I will say, I think you would be abundantly satisfied with the Penikese colony of Terns, for in my estimation there has been a decidedly larger number of old birds than for years, as well as a larger number of young, and they seem to have increased in the past few years very materially."

The old signs of last year were repaired, and repapered with new warning notices, in Portugese and English, and all made ready before the birds commenced to lay their eggs.

There are other places in Massachusetts waters where Terns breed in small colonies, but they do not call for especial mention here. One of these is located about the eastern head of Nantucket harbor (where the ocean several years ago cut through), where they bred the past season. There is another fairly large colony domiciled within our boundaries which I have intended to visit, but have not done so. It is my intention to investigate it next summer, the results of which, if sufficiently important, will be placed before the readers of 'The Auk.'



## THE SPARROWS OF MISSISSIPPI.

BY ANDREW ALLISON.

THIS brief summary, while embracing, I think, some species not previously reported from the State of Mississippi, is perhaps not a complete synopsis of the species found there, but deals only with those that either I myself have found occurring, or which have been otherwise recently proved to occur. Some species that I have not seen in the State — viz.: the White-crowned Sparrow (*Zonotrichia leucophrys*), which occurs, though uncommonly, in the vicinity of New Orleans, and the Fox Sparrow

(*Passerella iliaca*), which is a regular winter bird in some parts of Louisiana — should certainly be found; but, probably on account of the very poor opportunities I have had for winter field work in Mississippi, I have not had the good fortune to find them.

The genera known to me to be represented are: *Poœcetes*, *Ammodramus*, *Chondestes*, *Zonotrichia*, *Spizella*, *Junco*, *Peucaea*, and *Melospiza*. Of the first genus, the well-known Vesper Sparrow is necessarily the representative; of the second, seven species and subspecies occur. *Chondestes* is represented by its only species; *Zonotrichia* has, apparently, but one representative; *Spizella* two; *Junco* and *Peucaea* each one, and *Melospiza* two.

**Poœcetes gramineus.** VESPER SPARROW. — A winter resident, appearing as far south as 31° about the last of October, and becoming common in a week after the first birds arrive. Its favorite haunts are old fields, preferably those grown up near the edge with scrub pines.

**Ammodramus sandwichensis savanna.** SAVANNA SPARROW. — This seems hardly as abundant in Mississippi as in Louisiana, where it is almost everywhere one of the commonest winter birds; in Amite County, Miss., where I stayed until November 16 in the fall of 1897, I did not see a single specimen, though it arrives at New Orleans early in October. On the Gulf Coast, comprising Hancock, Harrison and Jackson Counties, it is abundant, though apparently not arriving as early as in Louisiana at corresponding latitudes. In these counties it flocks with the preceding Sparrow in the pine clearings, and frequents the dry marshes to some extent.

The bulk of the individuals leave in spring about April 20, but a few linger until the second week in May, and Prof. G. E. Beyer, of Tulane University, New Orleans, has in his collection a skin from Covington, La., labelled June 15.

**Ammodramus sandwichensis alaudinus.** WESTERN SAVANNA SPARROW. — Accidental, and, so far as I know, only one specimen has been reported from the State. This was seen by my brother, W. B. Allison, and myself, in Amite County, on November 12, 1897, and secured. It was identified by Dr. Merriam.

**Ammodramus savannarum passerinus.** GRASSHOPPER SPARROW. — Strangely uncommon in all parts of Mississippi to which I have recently had access; it is a regular, though not a common, breeder near New Orleans, but is not resident, and so is probably only a breeder in Mississippi.

**Ammodramus henslowii.** HENSLOW'S SPARROW. — This beautiful little Sparrow is probably a winter resident in Amite County, and is not

uncommon in the late fall. I have had no opportunities for observation in this county later than November 16, but, as an influx of these Sparrows arrived on the 15th, there is reason to believe that the winter numbers come in about that time.

I first saw it on October 9, 1897, when I secured one specimen; from this time until November 1, when my brother took another, an occasional elusive individual was seen. Until November 15, no more were seen, but on that date a number, some ten or fifteen, came in, in company with some Leconte's Sparrows (*A. leconteii*). Their general dark coloration contrasted well with the broadly white-edged backs of the latter, and made identification of both easy.

**Ammodramus leconteii.** LECONTE'S SPARROW.—This species has never, I think, been reported from Mississippi before, though Fuertes's specimen from New York makes almost any locality seem probable. In February, 1895, Prof. Beyer, of Tulane University, took a specimen on Avery's Island, off the southwest coast of Louisiana.

On the above mentioned occasion, November 15, my brother and myself found eight or ten Leconte's Sparrows in Amite County, in an old field, overgrown with crab-grass. This they seemed to prefer to the more open and less weedy cotton-fields, and we found them very difficult of capture, shooting only two, one of which we were unable to find. We had no time to explore other similar localities, or we should probably have found them equally common there. Unfortunately we were unable to remain after the next day, and Leconte's Sparrow in Mississippi sank again into oblivion. From the comparative abundance in which we found it on the single occasion, I incline to think it a regular winter resident, or at least a regular visitor.

*A. maritimus* and *A. caudacutus* are both represented in the marshes of the coast; the Seaside Sparrow is very abundant, but the Sharp-tailed I have not found common. Both are probably resident: the former becomes extremely abundant about the first of October, and, after a silence lasting through the summer, begins to sing in a lisping, wren-like way that is very pleasing.

**Chondestes grammacus.** LARK SPARROW.—This species rarely wanders as far east as Mississippi, and the only specimen I know of from that State was taken on September 4, 1897, at Beauvoir, Harrison County, by Mr. H. H. Kopman. The specimen is in Prof. Beyer's collection.

**Zonotrichia albicollis.** WHITE-THROATED SPARROW.—This, with the exception of the Swamp Sparrow (*Melospiza georgiana*), is our commonest winter bird, in suitable localities; the first individuals reach a latitude of 31° a few days before the middle of October, and a gradual increase follows until about the first of November, when the bulk arrives, and every hedge and brush-pile is alive and vocal with Sparrows. They are very common from about the 20th of October, but from November 1 to March 1 is their particular season of abundance.

The White-throated sparrow is the most faithful of our southern winter

songsters, and in the early morning both thicket and orchard ring with their clear, sweet notes. They are extremely fond of mingling with other species, and I have seen an immense flock composed of White-throated, Chipping, Field, Song and Swamp Sparrows, and Slate-colored Juncos, all feeding together on the best of terms.

*Spizella socialis*. CHIPPING SPARROWS.—In the pine regions of Mississippi it is about equally abundant with the Field Sparrow (*S. pusilla*) in winter, though on the coast it is commoner than the latter. As a breeder it does not occur on the coast, but breeds abundantly, though rather irregularly, in Amite County. In 1897 I saw not a single individual until the winter numbers began to arrive, whereas in 1894 and 1895 it bred abundantly. Madison County, though farther north than Amite, has very little pine forest, and I have never found the species there at all.

The influx of winter birds begins, in Amite County, in October, and shortly after they become so numerous that it is hard to determine when the migration ceases: about the 25th of October the flocks become very large, and are seen feeding impartially on the ground in the pine groves with Pine Warblers (*Dendroica vigorsii*), or in the thickets with White-throated Sparrows. In the 'deadenings,' or tracts of open land, where the pines have been girdled, they fly in small scattered flocks restlessly from tree to tree, and flocks are continually descending to feed with the main body on the ground, where perhaps two or three hundred may be gathered at a time.

*Spizella pusilla*. FIELD SPARROW.—This species breeds sparingly in Amite County, abundantly in Madison County and thence northward. Early in October the winter numbers begin to arrive in the former county, and are then much associated with the preceding species.

*Junco hyemalis*. SLATE-COLORED JUNCO.—Arrives from the middle of October until about the same time in November, and winters abundantly, though apparently only reaching the coast in very severe winters.

*Peucaea aestivalis bachmanii*. BACHMAN'S SPARROW.—It hardly seems to deserve its name of 'Pinewood Sparrow' except in the extreme south of the State; in Madison County it breeds abundantly in the grass-fields, but seems to confine its attention largely to that county, as in Amite County I have seen but three specimens, a male, and two young of the year. These were found in an open grassy field on Sept. 26, 27, and 30, and all were taken.

On the coast, however, it is a common bird in the pine woods, and enjoys the distinction of being the only Sparrow breeding there. Its habits here remind one sometimes of the Savanna, sometimes of the Chipping Sparrow, while farther north it suggests the Field Sparrow strongly.

*Melospiza fasciata*. SONG SPARROW.—This is generally a rare breeder in Mississippi, though probably more common in that capacity in the most northern parts. The only instance of its nesting in central Mississippi, that has come to my notice, was in Madison County, in 1893;

on this occasion my brother and I found a single pair, in worn and blackish midsummer plumage, about the middle of June.

The winter residents begin to arrive in early November, and by the middle of that month they are fairly common; in midwinter they are doubtless much more abundant.

**Melospiza georgiana.** SWAMP SPARROW. — This is without doubt the commonest winter bird in Louisiana and Mississippi; the first birds arrive a little after the first of October, and the species is abundant within a week after that time. The full bulk arrives early in November, and contributes so many individuals to the already crowded thickets, that it is hard to see how so many can find sustenance. About the first week in March they begin to thin out, and in a month nearly all are gone, though near New Orleans I have seen a single one as late as May 3.

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## GENERAL NOTES.

**Record of a Fifth Specimen of the European Widgeon (*Anas penelope*) in Indiana.** — A specimen of this Duck was killed by a local gunner on the marshes at English Lake, Indiana, on the 15th April, 1899. The gunner was not acquainted with the species, never having seen one before, but called the attention of Mr. John Taylor, Supt. of the English Lake Shooting and Fishing Club, to a red-headed Widgeon which he had just killed. Mr. Taylor examined the Duck and gave me the information. This makes the ninth record for the interior. — RUTHVEN DEANE, *Chicago, Ill.*

**The Scarlet Ibis (*Guara rubra*) in Arizona.** — When crossing the Rillito about a mile north of old Fort Lowell, with a party of friends, September 17, 1890, en route to Sabina Cañon, I saw a small flock of Scarlet Ibis. There were seven or eight of them. They were standing in the running water and were pluming themselves. The day was hot and fearing if I killed any they would spoil before I could get home with them, I decided not to interfere with them till my return a few hours later. To my great disappointment they were then gone. — HERBERT BROWN, *Yuma, Arizona.*

**Notes on the Breeding of the Wilson's Snipe (*Galinago delicata*) in Illinois and Indiana.** — With occasional exceptions, northern Indiana is undoubtedly the southern breeding range of the 'Jack Snipe,' yet I do not think it is generally known that many remain, even in this latitude, to rear their young, and the majority of sportsmen, at least, think that



after the spring migration has passed on, no Wilson's Snipe will again be seen until September. It has only been within the past few years that I have appreciated the numbers which must breed along the Kankakee River in Indiana. We know there is no fall migration as early as July and August, and consequently such birds as are killed in those months must be the breeding birds and their young, which at this season do not show any material variation in size or plumage. At English Lake, which is a mere widening of the Kankakee River near the settlement bearing the same name, the water is often sufficiently low in the summer months to expose a considerable territory of mud flats, grown up to cane and wild rice, and it is here that the Snipe congregate during a portion of the day and at night retire to the marshes back from the lake and river. On August 7, 1893, Mr. J. M. Mackay and friend bagged sixty-nine 'Jacks,' and one morning in the latter part of July, 1897, killed forty-two of the same bird.

But few instances of the actual finding of the nests have come to my knowledge. Mr. G. Frean Morcom has a set of eggs in his collection collected on the grounds of the Macsauber Shooting Club, near Davis Station, Indiana, on the Kankakee River, and another nest was discovered by Mr. John Watson of Chicago, a sportsman of large experience in Snipe shooting. He wrote me under date of May 25, 1898: "I found the 'Jack Snipe' nest referred to, on April 24, 1898, near what is known as the 'big ditch,' about two miles south of Davis Station, Indiana. There were three eggs in the nest, large eggs for the size of the bird, and very much tapered at one end, dull white and splashed with black markings. I was within two feet of the nest when the bird flushed and acted as though crippled, lying on the withered grass with extended wings, about ten feet from where I stood. I walked up to her and off she went, and a very lively bird she then was."

I am also indebted to Mr. F. R. Bissell of Chicago, a sportsman well acquainted with the Wilson's Snipe, for information regarding a nest containing four eggs which he found on April 24, 1896, while hunting through meadows some ten miles west of Waukegan, Lake Co., Illinois. On two occasions I have flushed Snipe in Stark Co., Indiana, in April, when their actions were sufficiently suspicious to satisfy me they were nesting in the immediate vicinity, but a thorough search failed to reveal the nests of either.

In most, if not all States the Wilson's Snipe has never been protected at any season, but under a new bill for the better protection of Game Birds and other species, now pending before the legislature of Illinois, this Snipe is given a close season between the 25th day of April and the 1st day of September. It is hoped this may become a law, inasmuch as we know that a considerable number must breed within the limits of the State every year.

A very late record for this Snipe in Illinois is three being shot by Mr. C. J. Spencer on December 24, 1896, at Benton, Ill., in the northeastern

corner of the State. The weather was very cold and everything frozen up except a small space of ground which had been kept soft by the draining of hot water pipes from a stationary pumping engine. These birds had evidently been living on this spot for some time, as they were in good condition. — RUTHVEN DEANE, *Chicago, Ill.*

*Columba corensis* at Key West, Florida. — On October 24, 1898, an adult female of this species was shot on the Island of Key West, and brought to me in the flesh, by a young collector in my employment, who found it among some Doves in the possession of a dove hunter, who had shot it from a wild fig tree on the outskirts of the town. The skin was sent to Mr. William Brewster, who kindly confirmed my identification, and it is now in his collection. — JOHN W. ATKINS, *Key West, Fla.*

The California Vulture in Arizona. — So far as I know there has been no record made of the California Vulture (*Pseudogryphus californianus*) being in Arizona, and I therefore offer one. In March, 1881, three men, Bill Johnson, Joe Henderson and Miles Noyes, crossed the Colorado River at Pierce's Ferry, Grand Wash Cliffs, northwestern Arizona. At that time the ferry consisted of a row boat attached to a line that extended across the river from bank to bank. In this boat the men crossed with their packs and swam their horses. They camped that night under the high bluffs. Next morning while getting breakfast they observed what appeared to be two Indians watching them from the top of a distant cliff. This at first glance drove the men to their guns, but a more careful examination showed the strangers to be a pair of Vultures. Later they flew almost directly over the camp at an elevation of between 75 and 100 yards. Noyes fired a shot from a model 76 Winchester and struck one breaking its right wing near the body. It struck the boulders on the river bank and was killed by the fall. It was described as being of "a dark brown color with purplish warts on the neck." The men had no rule, so measured it with a gun. It was over a gun length in height and more than three gun lengths in the spread of its wings. — HERBERT BROWN, *Yuma, Arizona.*

*Melanerpes erythrocephalus* Wintering in Chicago. — Some time since Mr. Brandler called my attention to the fact that there was a single specimen of Red-headed Woodpecker hanging about the shrubbery in Jackson Park. While out for an early walk on the morning of February 17, I had the pleasure of coming on the bird myself as it was clinging to the trunk of the tree close down to the ground, evidently protecting itself from the wind, in the growth of ornamental shrubs. It was all huddled together, with every feather ruffled, and it was a pitiable sight indeed with the thermometer hovering, as it was, about the twenty below zero mark. This is the only instance which has come to my notice of the Red-head exhibiting the hardihood necessary to winter in this local-

ity, though I am told it is seen at rare intervals in the woods sixty miles farther south. — WM. ALANSON BRYAN, *Chicago, Ill.*

**A Bahaman Bird (*Centurus nyanus*) Apparently Extinct.**—The only known specimen of this Woodpecker, I shot on Watling's Island, Bahamas, March 5, 1886. He may have been the last of his kind, for although a week was spent on said island, and a great many holes made by Woodpeckers were seen in the dead trees, still all looked old. None seen were fresh. The one this bird flew out of was made in a dead stump, about fifteen feet high and eighteen inches in diameter; the hole was well up towards the top; the location was about a quarter of a mile from the lighthouse then being erected. During the week spent in collecting, not a Woodpecker of any kind was seen or heard on the island.— WILLARD NYE, JR., *New Bedford, Mass.*

**The Chuck-will's-widow on Shipboard.**—On a steamer from Savanna, Georgia, to New York, in April, 1898, my father and I made some very interesting observations on the Chuck-will's-widow (*Antrostomus carolinensis*). We left Savanna on the 18th of April, and early in the morning of the 19th, when we were about fifty miles from the coast of southern South Carolina, a bird of this species came aboard. My father caught sight of it sailing along a short distance behind the ship, and the next instant it had alighted on the railing of the upper deck not far from where he stood. After sitting there about thirty seconds, it darted downward and disappeared amidst the cargo on the lower deck, and a careful search failed to reveal it.

Several Warblers (*Dendroica striata* and *D. palmarum*), made their appearance during the morning, but the Chuck-will's-widow remained concealed. At two o'clock in the afternoon, however, while we were looking at a beautiful Hooded Warbler (*Wilsonia mitrata*) which had just come aboard, the long sought *Antrostomus* suddenly darted out from the lower deck and flew swiftly away in an easterly direction. We were amazed that it had not started toward land, but thought we had the key to the mystery, when, as the bird began to fade in the distance, it sank closer and closer to the water and at last settled on a wave-top for an instant. The bird seemed to have completely lost its bearings, and found itself too exhausted to fly, and we, thinking that this was the end, returned to our study of the Warbler, which had grown completely tame, and was catching flies at the feet of the passengers. A minute later our eyes lighted on a dark speck in the air off to the eastward, and we soon recognized the Chuck-will's-widow, flying lightly and strongly, and heading toward the ship. In a short time it had reached us, but instead of alighting, it swept over the top deck and kept on over the sea to the westward, and soon disappeared in the distance. This time, however, we expected it back, and sure enough, within three minutes we saw it sailing along over the ocean west of us far ahead of the ship, and flying in a

direction parallel to the ship's course. It soon turned, however, and presently joined us, and from that time on was seldom out of sight for more than five minutes at a time. Sometimes it would dash the length of the hurricane deck, under the awning, and literally fan the faces of the passengers with its wings; and again it would follow in the ship's wake for a few minutes, flying at a height of about forty feet above the water. Occasionally it would rest for awhile on the rigging or top deck, and then be off again over the ocean, coursing about with a free, easy flight, somewhat like that of a Bonaparte's Gull, but with an element of the straightforward flapping and sailing of a Hawk or Owl. We soon learned about how soon to expect it back, after one of its flights, but it was quite as likely to come back from a corner opposite to that in which we had seen it disappear. Occasionally it would drop lightly into the water, as it did when it made the first flight to seaward at two o'clock, and it was evident, that, unnatural as this seemed, it did it for pleasure, and not from exhaustion, as we had previously supposed. Its whole manner was one of complete ease and grace, as though it were a sea-bird, and entirely accustomed to following ships in broad daylight; indeed, it seemed to be more willing to leave the vicinity of the ship for minutes at a time, than any Gull or Petrel. And this was a Chuck-will's-widow, that strictly nocturnal, forest-loving bird, to be found in the daytime only in the hollow of some tree, or on the ground in the shadiest parts of the woods!

At about five o'clock the idea occurred to me that there might be more than one, for although the bird was fully as active in its excursions, often disappearing in the distance, there seemed always to be one near us. Resolved to determine this point, I climbed up to the superstructure, where I could get a good view of the whole ship and surrounding ocean. The Chuck-will's-widow had just come back from an unusually long flight, and had alighted on a rope about ten feet above the deck on which I stood. After watching some time for others, and not seeing any, I tried to see how near I could get to the perching bird. The rope on which it sat was stretched at an angle of about  $45^{\circ}$  from the deck to a point twelve feet up a mast, and the bird was perched *crosswise* on it a few feet from the top. Beside the mast stood a large ventilating funnel, and by keeping on the opposite side of this, I was enabled to creep up unobserved to within twelve feet of the bird. When I had gotten as near as possible, I cautiously peered out from behind the funnel, and had a good look at a beautiful female Chuck-will's-widow. It was so near that I could see every marking and every slightest motion. Occasionally she would half open her great mouth, as though yawning, and the curious barbed bristles fringing it would vibrate like the antennæ of a moth. Finding that she did not take alarm at my presence, I stepped out from behind the funnel, and got exactly under the bird, but she showed no signs of agitation, beyond opening to her full, her beautiful deep eyes, which up to that time had been half shut. Having studied her as long as

I wished to, I was turning to go, when I saw a second one, closely followed by a third, dash past the bow, and over the fore part of the ship. One of them alighted on the railing of the bridge, while the other kept on over the sea for some distance. From that time on I frequently saw them together, and found that there were two females and one male.

All this happened in bright afternoon sunlight, before half past five o'clock. The following other birds were on the ship at this time. A Palm Warbler (*Dendroica palmarum*), an adult male Hooded Warbler (*Wilsonia mitrata*), a full-plumaged Bay-breasted Warbler (*Dendroica castanea*), a Yellow-winged Sparrow (*Ammodramus savannarum passerinus*), a Catbird (*Galeoscoptes carolinensis*), and a Field Sparrow (*Spizella pusilla*); making, with a Black-poll Warbler (*Dendroica striata*) and some Tree Swallows (*Tachycineta bicolor*) which we had seen in the morning, and the Chuck-will's-widows, nine species of land-birds which had rested on the ship during the day.

As twilight came on, the Chuck-will's-widows spent more time about the ship and less over the water, and we found that they were feeding on large beetles which were flying around over the decks. Suddenly as we were watching one of these birds, an officer of the ship called to us from the other side of the deck: "Did you see that Hawk catch that little bird?" And he then told us that he had seen the 'Hawk' chase one of the small birds out over the sea and swallow it, or at any rate the bird had suddenly disappeared when its pursuer was almost on top of it. A moment later two sailors, who had been on the deck below, came up and asked our informant if he had seen the big bird catch the little one, and when questioned by us, they described it exactly as he had done. Soon afterwards, when I was standing on the superstructure, a Warbler, which I took to be the Hooded, darted past me hotly pursued by a Chuck-will's-widow, and the next instant I plainly saw it seized upon and swallowed, just as if it had been a moth, though its captor seemed to have some difficulty, as I saw it opening and shutting its mouth when it passed me again a moment later. This was our last observation for the day, as it was getting too dark to see clearly.

The next morning was cold and foggy, and I thought that if the Chuck-will's-widows were anywhere on board, they would be hiding in some sheltered corner. Accordingly I hunted the ship over, paying special attention to corners of the lower deck, but found nothing but a Palm Warbler and a Field Sparrow, and was about to give up the search when I suddenly came upon one of the females squatting under a life-raft. She was apparently benumbed by cold, as I was able to get within three feet before she flew, and almost caught her as she dodged out past me from under the raft. She was evidently the only one left on the ship, but whether the others had been caught by the ship's cat, or had flown away, we never learned. The day was unusually cold, about 45° Fahr., and the solitary *Antrostomus* was quite evidently affected by it. There was a marked difference in her actions, for though she occasionally

left the ship of her own accord, she always immediately fell behind, and seemed to experience great difficulty in regaining it.

Each time she left the ship she seemed to have harder work to get back, and at last, when, after a rest of nearly twenty minutes in the shelter of a heap of sail, she once more darted astern, she seemed to find her strength failing, and made a desperate attempt to reach the ship again. After struggling for some minutes, flying with a weak heavy flight, totally different from that of the day before, and all the time losing ground, she finally disappeared in the fog, and we never saw her again.

This was at about ten in the morning of April 20, off northern Virginia. — GERALD H. THAYER, *Scarborough, N. I.*

*Pinicola enucleator canadensis* and *Tryngites subruficollis* in Illinois. — It is seldom, indeed, that Illinois is favored with a visit from the Pine Grosbeak, there being to my knowledge only one previous published record of its occurrence in the State. Mr. Harrison Kennicott (who by the way is a nephew of Mr. Robert Kennicott, whose name is a familiar one among ornithologists) informs me by letter, in which he kindly gives me permission to publish this note, that on the 15th of February, while he was out shooting rabbits in the woods near 'The Grove,' Cook County, he came across an unfamiliar bird among a flock of Juncos, which at first sight resembled a Shrike in form. His first shot brought it down and after careful study of Nuttall's 'Manual' he identified it as a young male Pine Grosbeak. He laid it aside to send in for farther comparison but unfortunately the favorite family cat got hold of it and destroyed it completely, eating everything, even to the head and wings. I believe this may be looked upon as a straggling southern record directly attributable to the exceedingly cold wave which prevailed at that time, being the coldest weather, with a single exception, in the history of the State.

A bird which is perhaps almost as infrequently met with by the ornithologists of the State as the foregoing one is the Buff-breasted Sandpiper (*Tryngites subruficollis*). It was on Sept. 18, 1898, that a head was handed me, then in a macerated condition, which I was able to identify at once as that of *T. subruficollis*. Mr. Chas. Bandler while out shooting Plover the day previous had come on a pot hunter who was roasting his game, consisting of the specimen here recorded and another one (which was mutilated beyond positive recognition, but which was believed to be the same), in his campfire and muttering because of his poor luck. The head, which was all that was available, Mr. Brandler picked up and it is now in the Field Columbian Museum collection, recorded as from Calumet Lake, Cook County, Illinois. — WM. ALANSON BRYAN, *Chicago, Ill.*

*Ammodramus nelsoni* in Iowa. — I am unable to find any record of the occurrence of this species in our State and it gives me pleasure to

say that on Oct. 12, 1894, a beautiful adult male accepted an invitation from my gun to join some of his cousins in my collection. The bird was shot in an old stubble field bordering the Iowa River, opposite Regens Park, Iowa City, Iowa, and is entered as number 796 in my catalogue. — PAUL BARTSCH, *Smithsonian Institution, Washington, D. C.*

**Nelson's Sparrow** (*Ammodramus nelsoni*) at Toronto, Ontario. — On the 22d of September, 1894, whilst I was Snipe shooting near Toronto, I noticed several small Sparrows, flitting out of the rushes before my dogs, whose manner of flight was new to me. Two of these I shot and found them to be of this species, — the first I had ever seen or heard of in the Province. During the remainder of that autumn I kept a sharp look-out for them but saw no more.

On the 10th of June, 1895, I saw a small bird flying up the shore of Lake Ontario from east to west; it was then about thirty yards high, but as it neared the marsh at the eastern end of Ashbridge's Bay, it gradually lowered as if intending to alight. However, I killed it. This was a female with ova about as large as No. 12 shot; in the autumn of that year I saw only two others though I watched for them carefully.

In 1896 I saw only one and that was on the 28th of October. This bird was in a marsh about three miles from where I have seen all the others.

During the autumn of 1897 none appeared until the 9th of October; from that date until the 29th one or more were seen every day but they never became common.

In the autumn of 1898 the first appeared on the 23d of September, when I saw one; on the 24th several were seen, and from that time until the first of October they were quite common; on some days I must have seen fifty or sixty of them.

They frequent just one spot in the marsh and are, owing to their secretive habits, rather difficult to find; when driven out of one clump of rushes they fly a few yards and drop into another, which affords them perfect concealment. I have not yet heard one of them utter a call note or a chirp of any kind.

Since I first saw them I have looked for them continually through the spring and summer months, but with the exception of the female taken on the 10th of June, 1895, I have failed to find any. — C. W. NASH, *Toronto, Canada.*

**Capture of the Black Seaside Finch** (*Ammodramus nigrescens*) in 1889. — Mr. Chapman's note on this species (*Auk*, XV, 1898, p. 270) states that it had not apparently been met with since its discovery in 1872, by Mr. Maynard, till found by himself in 1898. It hence gives me pleasure to report my capture of a pair near Indianola, Florida, March 3 and 5, 1889. Indianola is situated almost opposite Cocoa, on Merritt Island. While

hunting Wilson's Snipe, along the border of a stretch of stiff marsh grass on the swampy shore of Banana River, a small bird started up in front of me and, fluttering over the top of the grass, had the appearance of a Wren, but its black plumage gave me full assurance that *Ammodramus nigrescens* was within reach of my gun. Changing cartridges, I soon had the pleasure of holding in my hand this highly valued prize. Snipe shooting was now out of order, but several hours' search for the Finches proved fruitless. On March 5, I had the good fortune to collect another Black Seaside Finch, apparently the mate to the one taken two days before.

Several additional visits to the same and other near localities did not reveal the presence of any more of these birds. Some days after taking the specimens already mentioned we made a trip to the shore of the Banana River, about eleven miles north of Indianola, a native of Merritt Island having assured us that we would find this little black Sparrow there in quantity; but our bright anticipations were doomed to disappointment.

Several years later, when again on the island, I had the pleasure of starting another specimen, a few miles east of Indianola, midway between Indian and Banana Rivers. While in the act of raising my gun my feet were suddenly entangled with a large moccasin, and a glance at this loathsome object seemed sufficient reason for letting my coveted Sparrow escape.

The two I took in 1889 were a pair, male and female, and have afforded me especial pleasure when looking over my collection of birds. The male is darker throughout than the female, with the markings on the under parts stronger and more conspicuous.—AUGUST KOCH, *Williamsport, Pa.*

**Song Season of the Cardinal** (*Cardinalis cardinalis*).—The following is a record of the days on which I have heard the Cardinal sing, since January, 1896. I think it is a full one, as there has hardly been a week that I have not been in the haunts of the bird, and the song also is one that is not likely to be overlooked.

The record was taken in the vicinity of Anderson, S. C. [See Table, pp. 279 and 280.]—J. ROWLAND NOWELL, *Anderson, S. C.*

**Piranga rubra not Preoccupied.**—Mr. Gerrit S. Miller, Jr., has kindly pointed out an error of statement in regard to the names of Tanagers published by the present writer in the last number of 'The Auk.' The remark is there made that Vieillot used the combination *Piranga rubra* for the Scarlet Tanager, thus precluding its subsequent employment for the Summer Tanager. As a matter of fact, however, Vieillot's *Piranga rubra* (Ois. Am. Sept., I, 1807, p. iv, pl. I, fig. 12) is not the Scarlet, but the Summer Tanager, as examination of his references and figure



# SONG SEASON OF THE CARDINAL.

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clearly demonstrates. This mistake arose from taking Professor Baird's identification of Vieillot's *Piranga rubra*, — P. R. R. Rep., IX, 1858, p. 300, where he cites it as a synonym of the bird now known as *Piranga erythromelas*, in which course he has been followed by some other authors. Further comment is unnecessary; and the two birds in question remain in undisputed possession of their present names. — HARRY C. OBERHOLSER, *Washington, D. C.*

**Clivicola versus Riparia.** — In 'The Auk' for July, 1898, pages 271-272, Dr. Coues draws attention to the fact that the generic name *Riparia* Forster (Synop. Cat. Brit. Birds, 1817, 17) has page priority over the current *Clivicola* Forster (*ibid.*, p. 55); at the same time expressing his preference for the adoption of the former. The A. O. U. Committee, however, refused to accept *Riparia* on the ground that *Clivicola* was used by the 'first reviser.' These two names are founded upon the same species and are both unaccompanied by diagnoses, so that there can be no question of their equal pertinency. Canon XVIII of the A. O. U. Code, which treats of generic terms published simultaneously, makes no definite provision for just this kind of a case; but in the preceding canon, with regard to specific names, the following occurs: "Of names of undoubtedly equal pertinency, and founded upon the same condition of sex, age, or season, that is to be preferred which stands first in the book." Therefore, unless we are to have on this point arbitrarily different rules for species and genera, a procedure apparently both unnecessary and undesirable, *Clivicola* must give way to *Riparia*. That the above quoted principle of page priority was intended to apply to genera as well as to species is evidenced by rulings of the Committee; as witness *Guara*, instead of *Leucibis*, which was adopted by the 'first reviser' — a perfectly parallel case.

While recourse to the decision of the 'first reviser' is often attended by more or less uncertainty, arising from the possibility of overlooking some obscure publication, the great advantage in the strict application of the principle of anteriority, as priority of pagination or sequence in the same book may be called, is that it furnishes means for a definite and final decision, thereby contributing to hasten on the millennium of zoölogical nomenclature—stability of names. — HARRY C. OBERHOLSER, *Washington, D. C.*

**Nest of Long-billed Marsh Wren lined with a Snake Skin.** — On June 6, 1898, on the meadow near Rutherford, New Jersey, I found a curious nest of *Cistothorus palustris*. It was fastened two feet above the water, to some green cat-tails, and was composed of reeds and broad grasses, and lined with a cast-off snake skin which was about a foot long. It contained six fresh eggs. — JOSIAH H. CLARK, *Paterson, N. J.*

**The Short-billed Marsh Wren (*Cistothorus stellaris*) in Maine.** — In Smith's List of the Birds of Maine (*cf.* Smith, Forest and Stream, Vol.

XIX, p. 445) this species is credited to Maine upon the strength of nests and eggs said to have been taken near Bangor. In my recently published list (*cf.* Knight, *List of Birds of Maine*, p. 141) the species in question is hypothetically included upon Mr. Smith's evidence, and upon the belief that I had seen the species in a marsh near this city, though at that time I had not secured any specimens.

May 30, 1898, I secured an adult male of this species, in full breeding plumage, which has already been recorded (*cf.* Knight, *Maine Sportsman*, Dec. 1898, p. 8). This specimen was secured in a low, somewhat bushy meadow within two miles of the Bangor postoffice, the locality being the same where I had seen the species during the late summer two or three years previously.

On the day when this specimen was taken, I was returning from a short outing, and when passing the meadow a gust of wind brought to my ear the notes of an unknown song uttered in a key that seemed dimly familiar. Again the notes were heard as I stood eagerly listening, and then my mind was carried back to the sage-clad hills of southern California where oft I had stood and listened to the echoing notes of the Pallid Wren Tit, similar, yet still far different from those just heard.

Again and yet again the song was heard in different directions, and soon the musicians, five Short-billed Marsh Wrens, were located in different portions of the meadow. While singing they seemed to perch conspicuously on the tops of low bushes, but on being approached they would descend into the tangled growth of sedges and skulk along in advance of me, uttering a low grating note of alarm or defiance.

The females seemed quieter and kept out of the way, though two individuals were seen which seemed, judging by the attention paid them by what were probably their mates, to belong to the gentler sex.

The specimen secured was judged to be a male and on dissection proved of this sex. For several days thereafter I frequented the locality in hopes of finding nests or eggs, but though the birds remained all summer I was unable to get proof positive that they nested, but of course they did so. My departure for California in mid-August put an end to further observations for the season.

A second specimen, also a male, had been secured on July 3. On comparison with individuals loaned me by Mr. Brewster, which were taken near Cambridge and elsewhere in Massachusetts, the Bangor birds were found practically identical in coloration and measurements.

The specimens were also compared with a series of birds from the U. S. National Museum collection, loaned me through the kindness of Prof. Ridgway, and found to be practically undifferentiable from any of these save two very pale-colored examples from Dakota.

Judging by the series examined, our eastern specimens are all referable to the only recognized race now on our list. Examples from the regions bordering the Plains are considerably paler in coloration, especially on the back, and study of a series of breeding birds from the West may show

sufficient differences to make advisable their separation as a subspecies.—  
ORA W. KNIGHT, *Bangor, Me.*

**A Provident Nuthatch**—Visiting Central Park on the morning of November 28, 1898, after a snowfall of  $9\frac{1}{4}$  inches, I carried a quantity of bread for the birds, and nuts for the squirrels. The squirrels did not appear until nearly noon, but the birds were quite ready for breakfast at 9.30 A. M. While crumbling bread for the White-throated Sparrows, who were exceedingly hungry and gave loud calls of delight, summoning their friends to the spot, a fine Fox Sparrow came and ate greedily.

In a few moments a White-breasted Nuthatch came and hopped about on a tree trunk, calling, *youh, youh, youh*, rapidly, as if greatly pleased, then he flew to the snow, seized as large a piece of bread as he could carry, and flew high up in a tree some distance away. I expected to see him eat it, although in all my experience with birds in bad weather I had never seen a Nuthatch eat bread, though they often eat bits of nuts thrown to them, and are very tame. This wise fellow hunted till he found a suitable cranny, then poked in his bread, and hammered it down several times with his bill. When he got it well stored, he went back to the tree near me, calling *youh, youh*, as if to say, "more please." Then I threw him a piece of pecan nut in the shell, and he took it at once, flew to another tree and looked till he found a hole, hammered it down as he did the bread, and returned for more. After the operation had been repeated many times, I was forced to walk and warm my feet, for the birds were so fascinating I had stood an hour in the snow.

Returning to the spot sometime afterward, the White-throats were singing, and the Fox Sparrow was tuning up too. As they were still feeding, I crumbled more bread, and soon the Nuthatch reappeared, and at intervals carried off pieces of nuts, storing each in a separate tree.

When my bread and pecans were distributed, I walked away and found some squirrels and gave them chestnuts. Mr. Nuthatch appeared again, and came low down on a vine, hanging his head off sideways, and calling loudly to attract attention. I threw him half a chestnut which he took immediately, and after a long search found a safe place in a cherry tree. He went off awhile, but later returned and took a whole chestnut and went so far I lost sight of him. I walked away and returned in a half-hour to the place. The Nuthatch came again and called, and took chestnuts several times and hid them.

Since writing the above the Nuthatch appeared on three consecutive days, and took bread and nuts many times and hid them. Unfortunately a friend and I saw a squirrel find his cache, and rob him twice.

Can any reader tell me if it is possible for Nuthatches to store their treasures where squirrels cannot get at them?—F. HUBERTA FOOTE,  
*New York City.*

**The Carolina Wren Breeding in Rhode Island.**—On May 11, 1899, I found in Middletown, R. I., a male Carolina Wren (*Thryothorus ludovicianus*) and three young ones just able to fly. As they were together when I found them they no doubt belonged to the same family and, from the age of the young, could not have been far from their nest. As the bird is rare here, the above may be of interest to the readers of 'The Auk.'—EDWARD STURTEVANT, *Newport, R. I.*

**Food of the Robin.**—On May 15, 1899, while collecting at Onondaga Valley, N. Y., I noticed a nest and young of the Robin (*Merula migratoria*). As I stood near watching the nest the mother bird appeared with a mouthful of larvæ of *Clisicocampa* (probably *C. americana*) which she fed to the young. After she had fed to her young the mouthful of larvæ she returned to a near-by apple tree and obtained more. The larvæ seemed to be nearly full grown, and it seems strange that the Robin should be feeding them these hairy caterpillars. This is the first instance I have known of any bird feeding on them except the Cuckoo.—A. W. PERRIOR, *Syracuse, N. Y.*

**Two Rare Birds for Southern Ohio.**—The extremely cold weather of this winter brought us two very rare visitors. One was the American Rough-legged Hawk (*Archibuteo lagopus sancti-johannis*), a pair of them being taken, one on Feb. 5, the other on Feb. 17. I could not secure either one for my collection. Dr. Wheaton states this Hawk to be rare in southern Ohio, mentioning but one specimen from Columbus and one from Cincinnati. But Waverly is 100 miles east of Cincinnati and 70 miles south of Columbus.

The other visitor was the Old-Squaw (*Harelda hyemalis*). Between Feb. 7 and 18 nine specimens, four males and five females, were taken by local hunters. I secured a fine pair for my cabinet. This is the southernmost record of this species for the State.—W. F. HENNINGER, *Waverly, O.*

**Some Rare Occurrences in Yates County, N. Y.**—*Larus marinus*, GREAT BLACK-BACKED GULL.—On April 18, 1898, there was a great influx of American Herring Gulls at this place and with them were about fifteen individuals of *Larus marinus*. One specimen was shot and brought to me for identification. They remained here about one week.

*Larus delawarensis*, RING-BILLED GULL.—A rare migrant, one specimen taken during the spring of 1894.

*Larus philadelphia*, BONAPARTE'S GULL.—About 500 of these gracefully manoeuvring Gulls appeared on April 21, 1898, and remained about ten days. Several specimens were taken in both the mottled and full plumage.

*Sterna antillarum*, LEAST TERN.—A rare migrant in the autumn. I

saw three specimens on Sept. 6, 1896, and secured one. They disappeared on Sept. 11.

**Aythya vallisneria, CANVAS-BACK.** — During the first week of December, 1897, Canvas-back Ducks began to appear in couples and small flocks and by the middle of January the local sportsmen estimated that there were about 200 flocked in this end of the lake (Kevka). However, a week's despicable night shooting soon drove them away. Old sportsmen inform me that these were the first Canvas-backs that they had seen in about fifteen years.

**Phalaropus lobatus, NORTHERN PHALAROPE.** — Rare migrant. I took one specimen on May 16, 1895.

**Tringa fuscicollis, WHITE-RUMPED SANDPIPER.** — On Sept. 29, 1898, I found a mortally wounded specimen along the lake shore and two more were seen. As near as I can find out this is the first record of the occurrence of the White-rumped Sandpiper in Yates County or adjoining counties.

**Calidris arenaria, SANDERLING.** — One specimen, taken in the autumn of 1893, and another on May 25, 1895.

**Asio wilsonianus, AMERICAN LONG-EARED OWL.** — The occurrence of this Owl is not common and it is a rare breeder. Several nests have been found — the last one on May 16, 1897. It contained four eggs almost hatched.

**Icteria virens, YELLOW-BREASTED CHAT.** — Of rare occurrence in this county. On May 30, 1898, I found a pair breeding in the edge of a swampy bush lot. The nest contained two eggs that were destroyed for some reason — probably because I disturbed the sitting female. — CLARENCE FREEDOM STONE, *Branchport, N. Y.*

**Family and Subfamily Names Based on Subgenera.** — The purpose of the present note is to raise the question of the tenability of family and subfamily names based on subgeneric terms. Current usage appears to favor the formation of the family or subfamily name from some valid generic term in the group, and Canon V of the A. O. U. Code has the following to say upon the subject: "Proper names of families and subfamilies take the tenable name of some genus, preferably the leading one, which these groups respectively contain, with change of termination into *ide* or *ina*. When a generic name becomes a synonym a current family or subfamily name based upon such generic name becomes untenable." So far as the literal interpretation of this canon is concerned, there seems to be no provision for the case in hand, since a subgeneric name, so long as employed in that capacity, can be strictly considered a synonym of a generic term, no more than can a subspecies be considered synonymous with its particular species; but the intent of the canon is evidently to consider subgeneric names ineligible for use as the basis of supergeneric terms, as is manifest in the 'Code' from the remarks which follow this canon. On the other hand, in the interest of the

utmost possible stability for names of higher groups, it may be contended to be inadvisable to change family or subfamily names which have been founded upon generic terms now held as subgeneric; while still restricting the proper formation of such names to terms which have generic rank at the time of such formation.

If the former, however, be the proper view, it is in order to inquire why we still retain the family name Podicipidæ for the Grebes, while *Podiceps* continues to hold but subgeneric rank. The proper name for the group is probably Colymbidæ, as has already been announced by Dr. Stejneger (Stand. Nat. Hist., IV, 1885, p. 66). By the same criterion Phalerinæ is untenable, being based upon *Phaleris*, a subgenus of *Simorhynchus*, and if it be still deemed advisable to retain a subfamily distinction apart from the Fraterculinæ, may possibly best be called Simorhynchinæ. Then, too, so long as *Fuligula* stands only as a subgenus, the subfamily designation Fuligulinæ must be displaced. There are, however, structural characters quite sufficient to entitle *Fuligula* to full generic rank, — characters too well known to require enumeration in this connection, and which now receive due recognition almost universally except among American ornithologists. — HARRY C. OBERHOLSER, Washington, D. C.

'Revival of the Sexual Passion in Birds in Autumn.' — In addition to the notes of Messrs. Brewster and Chapman which have lately appeared in 'The Auk' on the above subject the following observations may be of interest. From my Journal for September 2, 1898, Jamestown, R. I. I copy the following:—"This morning a number of Purple Martins (*Progne subis*) were seen alighting on the rigging of the small boats anchored in the harbor, they being not uncommon here early in September; later in the morning they were in good numbers (15 or 20 birds) along the roadsides in company with the Tree Swallows. The Martins almost always alighted on the cross bars of the telegraph poles, rather than with the Swallows on the wires. While I was watching two birds, supposedly young, they were seen a number of times to go through the actions of copulation."

Another record was made on September 15, 1898. — "While sitting in the blind (Jamestown, R. I., Round Marsh) a Sharp-tailed Sparrow (*Ammodramus caudacutus*) came and lit near by and performed some interesting antics. The bird would now and then utter a few hurried notes, run a few feet and jump excitedly into the air. The bird also from time to time (five times) went through the actions of copulation on a little, cropped off tussock of grass about the size of its body. I was within a few feet of the bird, being protected by the blind, and am positive that its actions were those of copulation. Possibly this bird was mentally deranged. I took the bird and found it to be a young male, its sexual organs of normal size for that time of season. Two interesting questions present themselves. Is the accompanying non-enlargement of



their sexual glands due to their being still non-functional, or is the passion caused by simple sensory, nervous excitement? Is the autumn song period, of some species, correlated with this passion?

The species of birds that have now been recorded, as far as I know, as showing this autumn habit, include the Bluebird, English Sparrow, Bank Swallow, Tree Swallow, Eave Swallow, Barn Swallow (?), Purple Martin and Sharp-tailed Sparrow, and I have no doubt that further observation will add many other species to the list.—REGINALD HEBER HOWE, JR., *Longwood, Mass.*

**Émigration accidentelle d'oiseaux.**—Un fait rare vient d'appeler notre attention à Guanajuato. Pendant les premiers jours du mois de mars ont apparu subitement des bandes de perroquets (*Chrysotis leuallanti*) aux alentours de Silao à vingt kilomètres de Guanajuato. Un peu plus tard ils se sont encore rapprochés de nous à 4 ou 5 kilomètres dans un ravin, et ensuite à une grande ferme appelée Santa Teresa entre Silao et Guanajuato : enfin on les a vues dans les jardins de Marefil à six kilomètres d'ici.

Ces perroquets étoient accompagnés de nombreuses tourterelles violettes (*Columba flavirostris*).

Or ces oiseaux n'habitent que les régions chaudes de Vera-Cruz et de la Huasteca Veracruzana.

Dans l'État de Guanajuato on ne cultive presque par les fruits de terre-chaude, de sorte que ces oiseaux, ne rencontrant pas leurs aliments habituels, ont dévoré les limons doux, les avocats et quelques autres fruits. A Santa Teresa ils se sont abattus sur un champs de luzerne qu'ils ont dévasté au point qu'on a été obligé de faire une battue pour les détruire ou les éloigner. Ils se sont en allés vers la fin de mars.

Il paraît que ces oiseaux ont été vus en grande quantité dans quelques points de l'État de Mexico.

Or il y a en une cause à cette extraordinaire émigration ; la voici.

Le 12 du mois de février dernier de fortes gelées et une neige assez abondante ont été observées précisément dans cette Huasteca Veracruzana : le maïs, les bananiérs, les arbres fruitiers en général, ont été complètement détruits, de sorte que le froid et le manque d'aliments a forcé les oiseaux en question à chercher un climat plus favorable, et les ont rejétés vers les plateaux du centre. La perte de café surtout a été presque complète de sorte que le grain qui valait 9 piastres les 14 kilogrammes, s'est vendu à 14 piastres. La canne à sucre a été aussi en grande partie détruite. En somme on calcule à près d'un million de piastres la perte totale : jusqu'aux racines des arbres fruitiers, tout a gélé.

Un autre phénomène analogue mais dû à une cause tout-à-fait contraire, s'est manifesté au nord de l'État de Guanajuato. Les perroquets et autres oiseaux<sup>1</sup> entre le nord de l'État de Vera-Cruz, le sud-est

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<sup>1</sup> Se sont répandus dans les provinces de cette région.

de celui de San Luis Potosi et le nord-est de Guanajuato, les forêts de la Huasteca Potasina ont pris feu: l'incendie s'est propagée assez rapidement, et les perroquets et autres oiseaux, fuyant devant elle, sont arrivés en bandes considérables, produisant partout les mêmes dégâts.

J'ai pensé que cette observation, toute accidentelle qu'elle est, pourrait intéresser l'Union des Ornithologistes qui s'occupe avec tant l'intérêt de tout ce qui a rapport aux oiseaux.—O. DUGÈS, *Guanajuato, Mexico*.

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## RECENT LITERATURE.

**Elliot's Wild Fowl of North America.**—Mr. Elliot's 'Wild Fowl,' as explained on the title page,<sup>1</sup> includes the Swans, Geese, Ducks, and Mergansers of North America, and is uniform in style of publication and method of treatment with his 'North American Shore Birds' and his 'Gallinaceous Game Birds of North America,' published respectively in 1895 and 1897, and reviewed at length in the pages of this journal (XIII, 1896, pp. 64-67, and XV, 1898, pp. 63-65). These three volumes, well illustrated and tastefully printed, include practically all of the so-called Game Birds of North America. They are designed as popular hand-books, for the sportsman and general reader. An account of the habits and haunts of each species is given under its English name; this is followed, in smaller type, by its approved technical name, without synonymy or bibliographical references, and a few paragraphs giving in plain language a description of the bird in its various phases of plumage, and its geographical distribution.

In a preface of six pages the author makes a fervent protest against the wholesale, indiscriminate and unceasing slaughter of these beautiful and economically highly important species, which has been their fate till

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<sup>1</sup>The | Wild Fowl | of the | United States | and | British Possessions | or the | Swan, Geese, Ducks, and Mergansers | of | North America | with accounts of their habits, nesting, migra- | tions, and dispersions, together with descrip- | tions of the adults and young, and keys for the ready identification of the species | A book for the Sportsman, and for those desirous of knowing how to | distinguish these web-footed birds, and to learn | their ways in their native wilds | By Daniel Giraud Elliot, F. R. S. E., etc. | . . . [8 lines of titles of the author's previous works, etc.] | With sixty-three plates. | New York | Francis P. Harper | 1898 — 8vo, pp. i-xxii + 19-316, frontispiece and 63 half-tone plates.

only a few, comparatively speaking, yet remain. As he says: "From the time the birds leave the frozen Northland, until the survivors return to it again in the ensuing year, the hunted fowl run the guantlet of a nation in arms; and no sooner do they pass the boundaries of the land they seek in the spring for the purpose of reproduction, than the natives continue the slaughter of the birds until they depart for southern climes. Is it any wonder that their numbers are diminishing; is it not rather a wonder that so many are left?"

In an 'Introduction' of six pages the author gives an excellent summary of the leading characteristics of the Duck tribe in general. The 'keys' and other technical matter are relegated to a 40-page Appendix, where also various points of nomenclature and classification are considered. He gives his reasons (which are further elaborated in this number of 'The Auk,' pp. 226-229) for placing all of the Swans in the genus *Cygnus*, and for rejecting *Olor* as untenable. He also claims the tenability of the genus *Exanthemops* for Ross's Goose, and refers the Wood Duck to the Old World subfamily *Plectropterinae*, where we think it quite as much out of place as it is in the *Anatinae*. His claims for *Exanthemops* are quite in harmony with his view of genera among the Water Fowl, for he has not only raised all of the groups formerly recognized in the A. O. U. Check-List as subgenera to the rank of full genera, but also separates generically the Canvas-back from the Redhead. He also adopts various emendations of names previously proposed by the 'good spellers.'

The 63 full-page plates are mostly, as in the previous volumes of this series, by Edwin Sheppard, but four are by the late John Wolf, and quite a number by the author, in each case reduced by Mr. Sheppard from larger drawings. There is also a frontispiece, giving a very good likeness of the author.

As the author has had a wide experience with the birds in life of which his books treat, much of what he has to say of their habits and distribution is given from personal knowledge. — J. A. A.

**Thompson's 'Wild Animals I have Known.'**<sup>1</sup> — Of the eight charming stories brought together and beautifully illustrated under the above title only two, 'Silverspot' and 'Redruff,' relate to birds. But the ornithologist who once takes the book in hand will doubtless find its pages, with their effective illustrations, too fascinating to wish to lay it finally aside till all have been read. The 'stories' are, as described in the title page, 'personal histories' of animals Mr. Thompson has studied in life, and

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<sup>1</sup> Wild Animals I have Known and 200 Drawings. By Ernest Seton Thompson. Being the Personal Histories of Lobo, Silverspot, Raggylug, Bingo, The Springfield Fox, The Pacing Mustang, Wully, and Redruff. Charles Scribner's Sons, New York, 1899. 8vo, pp. 358.

if, as in the case of some of them, the principal hero is composite, the facts are as observed, and to many, with Mr. Thompson's interpretation of motive and purpose, these animals, whether bird or beast, will seem more human in their intelligence, sympathies, and means of communication than is generally believed. In detailing "the real personality of the individual" Mr. Thompson gives us an insight into the real life of a species which any amount of description of the ways of a species as a species would never convey. 'Silverspot' is a Crow, distinguishable from other Crows by an albinistic mark on the side of the face, and the history of this individual as a distinct personality is a most telling way of placing before the reader the 'inner life,' so to speak, of the Crow tribe in general. The same is true of 'Redruff,' a Partridge of distinguished size and mean. In the lives of these 'dumb creatures' there is something pathetically human, that appeals to the reader's sympathies, and shows how much there is in man and beast that is shared in common. The marginal illustrations that cluster about the small type-bed of the pages are as suggestive and appropriate as can well be imagined, while the narrative is graphic, simple, and hence effective. In every way the book is something out of the ordinary, and as pleasing as it is original. — J. A. A.

**Stone on the Types of Birds in the Collection of the Academy of Natural Sciences of Philadelphia.**— Under this title<sup>1</sup> Mr. Stone gives us a very interesting historical sketch of the Ornithological Collection in the Museum of the Academy of Natural Sciences of Philadelphia, — perhaps still the most noted of any in this country, — followed by a detailed descriptive account of the type specimens of the birds it contains, arranged under the names of the authors of the species. In 1857, this collection was regarded, by so eminent an authority on the subject as Dr. Sclater, as the most perfect then in existence. As Mr. Stone has already given the readers of 'The Auk' (April, 1899, pp. 166-177) the history of this collection, — how and whence it was gathered, and the elements constituting its greatness, — which is more briefly and statistically presented again here, we need not dwell upon this phase of the subject.

In 1897 this collection contained 43,460 specimens, including the types of about 350 species. Respecting the early American ornithologists, it is of interest to note that these include types of two of Alexander Wilson's species; 5 of C. L. Bonaparte's; 8 of J. K. Townsend's; 8 of Audubon's; 3 of Nuttall's; 9 of William Gambel's; 1 of Edward Harris's (the only species he described); 2 of George A. McCall's; and 3 of Dr.

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<sup>1</sup> A study of the Type Specimens of Birds in the Collection of the Academy of Natural Sciences of Philadelphia, with a brief History of the Collection. By Witmer Stone. Proc. Acad. Nat. Sci. Phila., 1899. pp. 5-62.

Heermann's. There are types of about 160 of Cassin's species, and 9 of Peale's, and types of one or more species of some twenty other American ornithologists, besides types of many species (about 110) described by foreign ornithologists of note.

Not only has Mr. Stone given a list of the types in the Museum of the Academy, but in the case of species described in the Academy's 'Proceedings,' especially if North American, also the location of the types when not in the Academy's collection, if extant, and if believed to be not extant, this fact is also stated. The paper is thus an especially valuable one, and one involving great labor, for which Mr. Stone is entitled to the gratitude of his fellow ornithologists. —J. A. A.

**New North American Birds.**—During the last few months Mr. Bangs and others have described several new species and subspecies of North American birds. Mr. Bangs has separated the Barred Owl of Texas, heretofore of late referred to *Syrnium nebulosum alleni* of Florida, as *S. n. helzeolum*,<sup>1</sup> on the ground of its general lighter coloration. The Spruce Grouse of Labrador he has likewise described as *Canachites canadensis labradorius*,<sup>2</sup> basing the form on slight differences of coloration, more pronounced in the female than in the male. He has also characterized a new Rail from Southern California as *Rallus levipes*,<sup>3</sup> allied to *R. obsoletus* and *R. beldingi*, from which it differs in being smaller, and also somewhat in coloration.

Mr. Brewster has described a new Clapper Rail from the South Atlantic coast as *Rallus crepitans waynei*; <sup>4</sup> a comparison of Georgia and East Florida birds with those from New York and New Jersey showing that the southern form is much darker, the underparts more ashy, and the under tail-coverts with fewer markings.

Mr. W. H. Osgood has given a new name, *Chamaea fasciata phaea*,<sup>5</sup> to the form of Wren-Tit which has of late been regarded as true *C. fasciata*. The type of *C. fasciata* appears to have come from southern California, and hence *C. f. henshawii* is a synonym of true *fasciata*, the darker northern form being here named *C. f. phaea*. —J. A. A.

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<sup>1</sup> A New Barred Owl from Corpus Christi, Texas. By Outram Bangs. Proc. New Engl. Zoölogical Club, Vol. I, pp. 31, 32. March 31, 1899.

<sup>2</sup> The Labrador Spruce Grouse. By Outram Bangs. *Ibid.*, pp. 47, 48. June 5, 1899.

<sup>3</sup> A New Rail from Southern California. By Outram Bangs. *Ibid.*, pp. 45, 46. June 5, 1899.

<sup>4</sup> An Undescribed Clapper Rail from Georgia and East Florida. By William Brewster. *Ibid.*, pp. 49-51. June 9, 1899.

<sup>5</sup> *Chamaea fasciata* and its Subspecies. By Wilfred H. Osgood. Proc. Biol. Soc. Washington, XIII, pp. 41, 42. May 29, 1899.

**Bangs on the Subspecies of *Manacus manacus*.**<sup>1</sup>—Mr. Bangs here recognizes four subspecies of the *Manacus manacus* group, two of which are described as new, mainly on the basis of differences of size and in the color of the ventral surface. They are (1) *Manacus manacus* (Linn.), type locality, Surinam; (2) *M. m. abditivus*, subsp. nov., type locality, Santa Marta, Colombia; (3) *M. m. purus*, subsp. nov., type locality, Santarem, Brazil; (4) *M. m. gutturosus* (Desm.), type locality, unknown, but assumed to be southeastern Brazil.—J. A. A.

**Schalow on Birds from Chili, Patagonia, Tierra del Fuego and the Falkland Islands.**—This is an annotated list of the birds collected by Prof. Plate<sup>2</sup> in Chili, Juan Fernandez, Patagonia, Tierra del Fuego, and the Falkland Islands, numbering 148 species, and it supplements to an important degree the work of former naturalists in the same general region. The known range of a number of species is considerably extended, *Querquedula discors* being recorded from Chili, its previous furthest known limit being Lima, Peru; and two species are for the first time recorded from Patagonia, and twelve are added to the Tierra del Fuego list. Mr. Schalow believes that the examples of various species of northern Limicolæ, as *Limosa hudsonica*, *Numenius hudsonicus*, *Tringa canutus*, *Calidris arenaria*, etc., which are met with during migration in Argentina, are not migrants from breeding stations in northern North America, but from breeding stations in Tierra del Fuego, Patagonia and the Falkland Islands. The extended annotations relate to the habits and distribution of the species in the area under consideration, and to the color of the eyes, feet, etc., in life, as noted by the collector. In many instances the nests and eggs of the species are described.—J. A. A.

**Salvadori and Festa on the Birds of Darien.**<sup>3</sup>—This valuable contribution to our knowledge of the distribution of the birds of the Isthmus of Panama is based on the collections and field notes of Dr. Festa, made chiefly along the Rio Tuyra and Rio Copunate in 1895. The list numbers 123 species, one of which *Rhamphocelus festæ*, has been described as new. *Guara alba* is recorded for the first time from the Isthmus of

<sup>1</sup>On the Subspecies of *Manacus manacus* (Linn.). By Outram Bangs. Proc. New Engl. Zool. Club, I, pp. 33-37. March 31, 1899.

<sup>2</sup>Die Vögel der Sammlung Plate. Von Herman Schalow. Zool. Jahrb., 1898, Suppl., Fauna Chilensis, IV, Drittes Heft., pp. 641-749, pll. xxxvii, xxxviii.

<sup>3</sup>Viaggio dei dott. E. Festa nel Darien e regioni vicine. Uccelli. T. Salvadori ed E. Festa. Boll. dei Musei di Zool. ed Anatom. comp. della R. Università di Torino, XIV, pp. 1-13, Marzo 1899.

Panama and *Amazona inornata* is for the first time reported from the western side of the Isthmus. — J. A. A.

**Harvie-Brown's Color Code.** — At the meeting of the International Congress of Zoölogy, held in Cambridge, England, in August, 1898, Mr. J. A. Harvie-Brown read a communication entitled 'On a Correct Colour Code, or Sortation Code in Colours, to serve for mapping the Zoological Regions and Sub-Regions of the World, and also to be of use as an Eye-Index for Librarians,' an abstract of which appears in the 'Proceedings' of the Congress (pp. 154, 155). The abstract gives a list of the zoögeographical areas he has adopted, with a list of the colors used for their designation. He adopts two 'Realms,' an Arctic and an Antarctic, the former being divided into six 'Regions,' each of which is subdivided into 'Sub-Regions.' It is intended also to apply the color scheme to the binding of books, and to the edges of library shelves. This is apparently a revival or an extension of a color scheme formerly more or less in vogue for labels for specimens, where the color of the label was made, in the case of recent life, to indicate the geographical area of their origin, or, in the case of fossils, the geological formation from which they were obtained, but which of late seems to have been generally abandoned. For the convenience of those who wish to use Mr. Harvie-Brown's scheme, he gives, attached to his separates, the names of several London dealers who offer to supply the necessary materials for book-binding, etc., in the colors desired. — J. A. A.

**Howe's 'On the Birds' Highway.'**<sup>1</sup> — This handsomely printed little book consists of fourteen chapters and, in an appendix, four local lists, without annotation, of birds found at "localities treated in the body of the book." The chapters bear such titles as 'Winter Birds,' 'December by Land and Sea,' 'On the Sands of Ipswich,' 'Late Summer in the Adirondacks,' etc., and are, for the most part sketches of various ornithological excursions, of a very common-place order, from the standpoint of either ornithology or literature. The full page half-tones are chiefly views of scenery, though a few are ornithological, the one of chief interest in this respect being an Osprey's nest built on the top of a pole. The text figures are nearly all reproductions of photographs of mounted birds, good for their kind, though often lacking in sharpness. A colored plate of 'Our Friends the Chickadees,' by Mr. Fuertes, and the excellent typographical make-up of the book are the features entitled to praise. — J. A. A.

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<sup>1</sup> On the | Birds' Highway | By | Reginald Heber Howe, Jr. | With photographic Illustrations by the Author and a | Frontispiece in color from a painting by | Louis Agassiz Fuertes | [Vignette] Boston | Small, Maynard & Company | 1899. — 12mo., pp. xvi + 175, 14 full-page illustrations and 45 text cuts.

**Economic Relations of Birds to Agriculture.** — In this address <sup>1</sup> Prof. Beal gives a general review of the subject in which he very candidly presents the facts in the case as now known. These he summarizes as follows: “(1) Birds are not by the nature of their food habits, as a rule wholly beneficial; nor, on the contrary, entirely harmful. They eat insects because they are hungry, and not because they wish to destroy a pest; and consequently devour good insects with the bad. (2) That not all of the good done by birds is accomplished by the destruction of insects. Many species perform an almost incalculable service by destroying noxious weed seeds. . . . (5) That in view of the abnormal abundance of noxious insects and the accompanying decrease in our native birds it is for the present desirable that the numbers of the latter be largely increased. . . . (7) That it is not desirable to import foreign species of birds to this country. Such experiments, wherever they have been tried, have almost invariably resulted in disaster and loss to the interests of agriculture.”

Bearing on the same general subject is Dr. Judd's paper on ‘Birds as Weed Destroyers,’ <sup>2</sup> in which is discussed at some length the services birds render through the destruction of the seeds of troublesome weeds. The species most active as weed destroyers are of course the Finches and Sparrows, of which there are some twenty species, and the various Larks, Blackbirds, Doves and Quails. Several of these are figured, as well as some of the weeds they help to hold in check. “No less than fifty different birds act as weed destroyers, and the noxious plants which they help to eradicate number more than three score species.” Dr. Judd's paper is a summary of carefully made observations covering a considerable period, and he is thus able to affirm as a fact what seems to be more or less evident to even the superficial observer.

Dr. Palmer's paper on the dangers attending the introduction of foreign animals and birds <sup>3</sup> gives most timely advice on a subject that cannot be too seriously weighed in advance of action which, once taken, cannot be retrieved, as many communities have learned at sad cost. Several pages devoted to the general subject are followed by a condensed

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<sup>1</sup> Economic Relations of Birds and their Food. By Prof. F. E. L. Beal, Department of Agriculture, Washington, D. C. Reprinted from the Proceedings of the Twenty-fourth Annual Meeting of the New Jersey State Horticultural Society, Jan. 4 and 5, 1899. 8vo, pp. 27.

<sup>2</sup> Birds as Weed Destroyers. By Sylvester D. Judd, Ph.D., Assistant in Biological Survey. Year-book of U. S. Department of Agriculture for 1898, pp. 221-232, pl. xiv, and text cuts.

<sup>3</sup> The Danger of Introducing Noxious Animals and Birds. By T. S. Palmer, Assistant Chief of Biological Survey. Yearbook of U. S. Department of Agriculture for 1898, pp. 87-110, pl. viii, and text cuts.



statement of the history of the introduction, dispersal, and the results of the introduction of some ten species of mammals and seven species of birds into various countries to which they were not native. In nearly every case where the species has found permanent foothold in its new home it has become a pest, in some cases far greater than the evil its introduction was intended to remedy. Several species of Old World rats and mice have been unintentionally carried to nearly all parts of the world, and have thus become almost cosmopolitan pests, but while annoying, and under certain conditions very destructive, their ravages are easily borne in comparison with the losses due to the intentional introduction of the common rabbit of Europe into Australia and New Zealand, the Indian mongoose into Jamaica, and other islands in the West Indies, and into the Hawaiian Islands, and the introduction of ferrets, stoats and weasels into New Zealand to check the rabbit pest. Among birds, we have painful evidence of what may follow the thoughtless introduction of foreign species in that now well-nigh ubiquitous pest, the House Sparrow. Of the many attempts, or proposals to introduce other exotic species into this country the greater part have, fortunately, been attended with little success. The Starling has acquired a strong foothold in the vicinity of New York city, and thus far has apparently proved a well-behaved and attractive bird. It is rapidly increasing in numbers, and we have yet to see whether it will later become as obnoxious and unwelcome as it has under similar conditions in Australia and New Zealand, where "it has adopted a fruit diet to such an extent as to [have already] become a great pest."

Dr. Palmer discusses the proposed introduction of other species of birds to our fauna, and in the light of the past urges that "some restriction should be placed on the importation of birds and mammals which may become injurious." The introduction of European 'song-birds' into the United States has been attempted, with some degree of success, by individuals and by societies organized for this express purpose, but, as Dr. Palmer points out, "Experience with the English Sparrow, the work of rabbits in Australia and of the mongoose in Jamaica, all these have abundantly shown the necessity of preventing the repetition of similar costly blunders." Cape Colony and Western Australia, profiting by the experience of other countries, have already passed rigidly restrictive measures with this end in view, and it is to be hoped that similar legislation will be soon enacted by the United States, pursuant to the wise recommendation urged years ago by Dr. Merriam. In his report to the department of Agriculture in 1886. Dr. Palmer in his 'summary,' concludes as follows: "(7) The introduction of exotic birds and mammals should be restricted by law and should be under the control of the United States Department of Agriculture."

Dr. Palmer's paper is a concise and effective presentation of the subject, and we are glad to see that it is gaining extended publicity by republication in full in various widely known and influential journals. — J. A. A.

**Nelson on the Birds of the Tres Marias.**<sup>1</sup>—As a result of his visit to the Tres Marias Islands in May, 1897, Mr. Nelson presents us with a comprehensive account of the islands, their birds and mammals, while the reptiles, crustacea, and plants collected by himself and his assistant, Mr. E. A. Goldman, are reported on, respectively, by Leonard Stejneger, Mary J. Rathbun, and J. N. Rose. Mr. Nelson also adds a Bibliography of the Tres Marias Islands.

The Tres Marias Islands are situated about 65 miles west of the port of San Blas. The group is composed of four islands which were evidently at one time connected with one another. The comparatively shallow sea between the islands and the mainland, and the close relationship existing between their fauna and flora and that of the mainland, apparently prove a former mainland connection.

In consequence of the isolation incident to their insular existence we should expect the animals of these islands to develop distinguishing characteristics of size or color, and Mr. Nelson shows that no less than 18 of the 59 land birds—11 of which have previously been described by him<sup>2</sup>—are separable from their mainland allies.

The 83 birds recorded from the islands are treated at length, and the extended and admirable notes on habits add to Mr. Nelson's already well established reputation as a keen and discriminating student of birds in nature.—F. M. C.

**Nelson on New Birds from Northwestern Mexico.**<sup>3</sup>—This paper is based on collections made by Mr. E. A. Goldman in southwestern Sonora for the Biological Survey of the U. S. Department of Agriculture. The species and subspecies described are the following: *Amazona albifrons saltuensis*, *Antrastomus goldmani*, *Aphelocoma grisea*, *Pipilo fuscus intermedius*, *Cardinalis cardinalis affinis*, *Cardinalis cardinalis sinaloensis*, *Arremonops superciliosa sinaloæ*, *Basileuterus rufifrons caudatus*, *Thryothorus felix pallidus*, *Heleodytes stridulus*, *Myadestes obscurus cinereus*, and *Catharus olivascens*.

Mr. Nelson calls attention to the suggestive fact that a number of the birds of southwestern Sonora show closer relationships to forms peculiar to the Cape St. Lucas region than to races of the same species in southern Arizona, a condition which, to some extent, is paralleled by that of certain of the birds of San Blas and the Tres Marias Islands.—F. M. C.

<sup>1</sup> Natural History of the Tres Marias Islands, Mexico. General Account of the Islands, with Reports on Mammals and Birds. By E. W. Nelson. North American Fauna, No. 14, pp. 7-62. Washington, Government Printing Office, 1899.

<sup>2</sup> Proc. Biol. Soc. Washington, XII, pp. 8-11, 1898.

<sup>3</sup> Descriptions of New Birds from Northwestern Mexico. By E. W. Nelson. Proc. Biol. Soc. Washington, XIII, pp. 25-31, May 25, 1899.

**Genera and Subgenera of the A. O. U. Check-List.**—In the case of such purely conventional groups as genera and subgenera, utility is clearly their chief *raison d'être*, and this may be judged largely by the consensus of usage. In 1884, when the A. O. U. Committee prepared its Check-List of North American Birds, the feeling was more or less general among American ornithologists that there were too many genera current, and that the proper relationships of certain groups treated as genera were better expressed by reducing such groups to subgenera. This was evidently the feeling of the Committee, and on the conclusion of its work this feature of it was doubtless viewed with considerable satisfaction by all its members. As time passed on, however, the increasing tendency to differentiate subspecies on slight provocation naturally increased the relative value of the subgeneric groups. At the same time it became evident that the opinion of the Committee on genera and subgenera did not meet with the approval of ornithologists at large, and certain members of the Committee began to feel that the reduction of many 'genera' to the rank of 'subgenera' was illadvised. In 1892, this feeling was strong enough to lead to action, when all of the subgenera of *Trochilus* were given full generic rank, as was also *Ardeetta* among the Herons. In 1896, a few other subgenera were similarly treated, while in 1898, no less than twelve subgenera were raised to the rank of full genera! Probably others would have received similar treatment had their status been formally challenged in such a way as to bring them up for action.

The matter has been recently considered by Dr. Coues, in 'The Osprey' for May, 1899,<sup>1</sup> where he claims that, in his judgment, "a large number of the subgenera now standing in the Check-List, require to be restored or advanced to full generic rank, and some additional subgenera need to be recognized." He gives a list of some 21 subgenera he believes should stand as genera, and some dozen subgenera are suggested as additions to the Check-List. Two new subgenera are proposed, namely *Pallasicarbo*, for *Phalacrocorax perspicillatus*, and *Psiloscoops*, type *Scops flammeola* Kaup. Doubtless Dr. Coues's opinion on the subject of genera and subgenera, as here set forth, is shared by other members of the Committee. — J. A. A.

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<sup>1</sup>On Certain Generic and Subgeneric Names in the A. O. U. Check-List. The Osprey, III, May, 1899, p. 144.

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*quedula crecca* (Linn.) colorita anormalmente. (*Ibid.*, XVI.) (16) Il *Turdus fuscatus* Pallas — nel Bergamasco. (*Ibid.* XIII.) (17) Un Ibrido naturale di *Anas boscas* Linn. e *Mareca penelope* (Linn.) preso nel Veneto. (Atti della Soc. Veneto-Trentina di Sci. nat. ser. 2, I, fasc. ii).

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## CORRESPONDENCE.

### The Spelling of Names.

EDITORS OF 'THE AUK':—

*Dear Sirs:*—In the April number of your excellent journal, our esteemed friend, Mr. William Brewster, has acknowledged — what I am sure no one would ever have dreamed charging him with — that he has experienced a difficulty in spelling correctly even so insignificant a word as a proper name, and in his strait he appeals to me for assistance. Now, although I am indicated, together with Mr. Brewster's fellow-committeeman, Dr. Coues, and the revered president of an ancient University, as one of those who does not know how to spell his own name, which is a very sad state of affairs indeed, yet I will try to explain why "these things are thus." It is possible Mr. Brewster's former intimate knowledge of philology (which he tells us, and he alone would say that, is now reduced to "simple ignorance") has been obliterated by the peculiar atmosphere which has enveloped him at the meetings of a prominent A. O. U. Committee, of which he is one of the most highly respected members. If he will permit me, I would recall to Mr. Brewster's memory the fact that in philological science a word is spelled according to the root or source from which it is derived, and it not infrequently happens that several words, although very differently spelled, have the same meaning. To give an instance of this effect of derivation, BREWSTER is always spelled

in the way just given, and why? Because all the Brewsters have the same origin or source, for the ancestor of every one who has borne that name, without a single exception, first appeared in the Mayflower.

With the name that has given our friend so much trouble, the case is slightly different, and those who bear it are all right, no matter under what guise of orthography they appear, even should it be the one assumed in Boston, for, having sprung from different roots or sources, in this respect unlike the Brewsters, all the spellings are perfectly correct, each after its own kind in strict accordance with philological rules. I trust the faded memories of student days, in spite of his occasional unphilological surroundings, will assert themselves in renewed force, and permit our esteemed friend to perceive and appreciate the clearness of the above explanation.

But I cannot close, Mr. Editor, without expressing my very great satisfaction at beholding so eminent a member of the A. O. U. Committee on Nomenclature a-gunning for blunders. May he continue his meritorious search, and may it be attended with more success than in this his first effort, and should he again desire my assistance, I could point him to a field near to his hand where, without stint, he could gather trophies worthy of his prowess.

D. G. ELLIOT.

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## NOTES AND NEWS.

JOSEPH WOLF, the eminent bird artist and animal painter, died on the 20th of last April at the age of 79 years. He was born at Moërtz, near Coblenz, Rhenish Prussia, in June, 1820; he was the son of a farmer, but his powers of observation and talents as a draughtsman soon attracted attention, and eventually won for him the reputation of being "the best all-round animal painter that ever lived." Says the London 'Field': "The first work which brought the artist's name prominently before the scientific world was Rüppell's 'Systematische Uebersicht der Vögel Nordost Afrika's,' published in 1845, in which some fifty African birds are depicted in attitudes which contrast strongly with the stiff and unnatural positions in which previous artists were wont to portray their subjects. We look upon these illustrations as instituting the *renaissance* period in ornithological drawing. In 1850 appeared Temminck and Schlegel's quarto volumes on the fauna of Japan, which, with Wolf's coloured plates, still constitute one of the best illustrated works on natural history. Quickly following this came Schlegel's grand 'Traité de Fauconnerie,' in folio, with life-size portraits by Wolf of all the Hawks employed by falconers. . . . The late G. R. Gray's standard work, in

three volumes quarto, on the 'Genera of Birds,' a copy of which cannot now be obtained under £30, was partly illustrated by Wolf. Those who are familiar with the magnificent folio works of Gould on the 'Birds of Asia' and the 'Birds of Great Britain' will recognize in many of the life-like coloured plates the handiwork and talent of Joseph Wolf; while the same remark will apply to Elliot's grand volumes, also in folio, on the Pheasants, Birds of Paradise, the Birds of North America, [the Pittidæ], and the Felidæ or Cat Family." For half a century the 'Proceedings' and 'Transactions' of the London Zoölogical Society "teemed with the life-like productions of his pencil," while in 'The Ibis,' from its beginning in 1859 till now, "we have another example of the artist's wondrous skill in the delineation of birds." Numerous separate works of travel and natural history have been illustrated by this great artist; "nor should we omit to notice his 'Life and Habits of Wild Animals,' which appeared in 1874, illustrated from his designs, engraved by Whymper, with descriptive letter-press by D. G. Elliot."

THE scientific expedition to Alaska, planned and equipped by Mr. Edward Harriman of New York, left Seattle May 31, in the steamer 'George W. Elder,' which had been completely refitted to meet the requirements of the expedition. The trip will include a visit to Annette Island, a short trip up the Stickeen River, and stops at Juneau, and other points on the way to Cook Inlet and Kadiak Island, which regions will be the principal fields of exploration. The object of the expedition is a careful study of the flora, fauna, geology and glaciers of Alaska. The party comprises a large number of eminent specialists in botany, zoölogy and geology, who have joined the expedition as guests of Mr. Harriman. These include, among ornithologists, Dr. C. Hart Merriam, Chief of the United States Biological Survey, who will have charge of the biological work; Dr. A. K. Fisher, of the U. S. Biological Survey; Robert Ridgway, of the U. S. National Museum; D. G. Elliot, of the Field Columbian Museum; Charles A. Keeler, Custodian of the Museum of the California Academy of Sciences; Dr. George Bird Grinnell, editor of 'Forest and Stream'; Mr. John Burroughs, and Mr. Louis Agassiz Fuertes. The opportunities thus afforded by the generosity of Mr. Harriman cannot fail to materially increase our knowledge of the natural history of Alaska.

MR. GEORGE K. CHERRIE has recently returned from his expedition to Venezuela, where he spent twenty-one months collecting for the Tring Museum. His field was the Valley of the Orinoco, from Ciudad Bolivar to the mouth of the Ventuari River, above the falls and beyond San Fernando de Atabapo. He devoted his time almost exclusively to birds, but collected some insects and small mammals. Many nests and sets of eggs were forwarded with the birds. He reports that collecting between Ciudad Bolivar and the first falls of the Orinoco was rather disappointing and monotonous; while individuals were abundant the species were sur-



prisingly few. Above the falls the fauna changed rapidly; the number of species increased, and with every move up the river new forms appeared. Flycatchers, Woodhewers, and Ant-thrushes were the dominant forms, while there was a striking scarcity of Hummingbirds. Mr. Cherric's work was cut short by serious illness, which compelled his withdrawal from the country with his work only begun.

THE NEBRASKA ORNITHOLOGICAL CLUB was organized March 1, 1899, with eleven charter members, and Prof. Lawrence Bruner, Professor of Entomology and Ornithology, University of Nebraska, as President. The members are all active ornithologists; meetings are held every two weeks, at which the members report their observations. It is intended, through accession of members from other parts of the State, to make the Club eventually a State organization.

PART I of the 'Water Birds' of Mr. Charles B. Cory's 'Birds of Eastern North America' is in press and will soon be issued by the Field Columbian Museum. It is small quarto in size and profusely illustrated.

A COMPLETE 'List of the Birds of Rhode Island' is announced as in preparation, to be published by subscription in September, by Reginald Heber Howe, Jr., and Edward Sturtevant. The list is to be fully annotated, and illustrated by photographs, and will contain a bibliography of Rhode Island ornithology.

WE HAVE received a prospectus of what will apparently be a very important work, entitled 'Nests and Eggs of Australian Birds, including the Geographical Distribution of the Species and popular observations thereon,' by Archibald James Campbell of Melbourne. It will form a royal octavo volume of between 700 and 800 pages, with about 130 photographic reproductions of nests and nesting scenes, and 200 colored figures of eggs. Judging by the sample pages and illustrations accompanying the prospectus, the work will be unusually attractive and of standard value.

A FOUR-PAGE leaflet entitled 'Hints to Young Bird Students,' endorsed by eleven of the leading ornithologists of the United States, has been issued under the supervision of Mr. Witmer Stone. It points out that there is nothing to be gained by the collecting of large series of birds' eggs, "except the extermination of the birds." It counsels careful field work, and gives hints as to its prosecution. The large collections already available for study in museums, it is urged, "render it entirely unnecessary for every bird student to form a collection. Those who undertake any special line of study will soon learn what specimens are required and collect accordingly, instead of amassing a large number of specimens with no particular object in view." In the case of birds,

says the circular, "it is justifiable to shoot specimens which are new to you for purposes of identification, but you should make the best use of the bird *before* you kill it, so it will not be necessary to shoot more of the same kind in order to tell what they are." It is the aim of the circular to discourage the 'fad' of egg-collecting and its consequent waste of bird life, while still encouraging the study of birds.

A SOPHISM more or less current among advocates or abettors of indiscriminate bird destruction, either for millinery or other needless purposes, is perhaps too obviously disingenuous to require serious treatment, yet doubtless many thoughtless people are liable to mistake it for a sincere statement of fact, namely, that because millions of birds are reared annually for no other purpose than to have their necks wrung or their heads chopped off and their bodies used for food, or to be daily robbed of their eggs for man's use, therefore there is no reason why Egrets, Terns, Birds of Paradise, Tanagers, Warblers and other wild birds of fine plumage should not be killed without stint, or their nests robbed by the small boy and the commercial egg-collector. The whole tribe of barn-yard fowls is under man's protection, and reared for profit under artificial conditions, the supply being easily rendered equal to the demand, just as in the case of hay or grain or other farm products. Man's pecuniary interest is here involved in such a way that the extermination of a species is impossible. In the case of wild birds and beasts the case is wholly different. Here man interferes only as a destroyer, with the sad results we already too well know, whether we turn to the wild game animals and birds, or to the numerous victims of the milliner's greed. When, free from man's interference nature maintains a fair equilibrium; the death rate, from normal causes, just about equalling, in the long run, the natural limit of reproduction. Hence when man interferes, and fashion claims certain species as her victims, a wholesale, senseless, indiscriminate slaughter supervenes, over and above the death rate nature is prepared to meet; and the small boy and the 'egg-hog' add their powerful aid, in the diminution of our insectivorous song birds, to the efforts of the 'plume hunter' in sweeping from the face of the earth some of the most graceful and beautiful forms of bird life, and which it is beyond man's power to replace.

**Erratum.**—In printing Dr. Thomas S. Roberts's article 'The Prothonotary or Golden Swamp Warbler (*Protonotaria citrea*) a Common Summer Resident in Southeastern Minnesota,' appearing in this number of 'The Auk' (pp. 236-246) the name of the author was accidentally omitted, although duly given in the page-headings.





ROSE-BREASTED GROSBEEK.

UPPER FIGURE, IMMATURE MALE. LOWER FIGURE, ADULT MALE IN FALL.

$\frac{1}{2}$  NATURAL SIZE.

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## WINTER PLUMAGES:—ILLUSTRATED BY BREASTED GROSBELAE, *Phalaropus lobatus*, *LUDOVICIANA*.

BY WIMMER STONE.

*Plate II.*

ON THE accompanying plate Mr. Ebert shows the plumage of a male of the well known Rose-breasted Grosbeak, in the condition of the first winter, a condition often known as 'first plumage of the year,' and also the winter plumage of the fully adult, of two years or more.

The differences are not very obvious at first sight, but are found to be greater upon more minute examination, though these are probably more striking in the specimens themselves than in the plate where the figures are necessarily reduced.

Corresponding differences are exhibited by young and old winter specimens of a number of our common birds, and the subject is one of considerable interest.

In April, 1896, the writer published a paper on the 'Moults of Birds,' in which the seasonal plumages were tabulated, and the last number of 'The Auk' Dr. Dwight republished, and has been identical with the above except that he proposes to call the 'Juvenal' for what was formerly known as 'first plumage,' and adds an earlier stage, the 'Natal Down,' which was not considered in the former paper.

In both the articles referred to, attention is called to the difference in the winter plumages of birds, due to age. Some species also exhibit corresponding differences in the spring or nuptial plumage, but this is not so common.

The most interesting point in connection with these winter plumages is the apparent scarcity of adult birds during the fall migration. This has frequently been noticed, especially by Mr. C. W. Beckham,<sup>1</sup> and has been generally considered to be due to the earlier migration of the old birds and the probability that they travel more rapidly or with fewer stops.

In the case of the Rose-breasted Grosbeak, I examined the fall specimens in the collections of the Academy of Natural Sciences of Philadelphia, the American Museum of Natural History, the U. S. National Museum, and the private collections of Mr. William Brewster and several others, and while birds in the 'First Winter' plumage were abundant I found only two<sup>2</sup> in the 'Adult Winter' plumage.

The scarcity of these adult specimens has caused a difference of opinion as to the character of the adult winter plumage of several species, and even to-day authorities are divided upon the question of the winter plumage of so familiar a species as the Black-bellied Plover (*Squatarola squatarola*), some claiming that the adults are nearly identical with the first year birds in winter, while others state that they are always more or less black beneath, as in spring.

Such black-bellied specimens are certainly taken in fall but they are rare and are regarded by the former of the above 'schools' as exceptional plumages!

The Rose-breasted Grosbeak exhibits about as great a variety of plumages as is to be found among our passerine birds. It seems to molt regularly twice a year, though the spring molt is usually confined to the body plumage.

The adult in winter as shown in the plate differs from the 'First Winter' plumage in the greater amount of black above and rose

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<sup>1</sup> Auk, 1887, p. 79.

<sup>2</sup> Three others in this plumage were examined, taken in winter south of the United States.

beneath, and in the jet black instead of brown remiges and rectrices. After the spring molt both adult and first year birds appear in the familiar black, white and pink nuptial plumage, but, as in the early spring Bobolink, the tips of the feathers are often bordered with brown, which is lost through abrasion by the time the bird reaches its nesting ground. Even in the nuptial plumage the old and young birds can still be separated by the color of the flight feathers, which remain just as before the molt.<sup>1</sup>

With this outline of the plumages of the Rose-breast, it is interesting to see what our standard works have to say on the subject. In not a single one is there anything to indicate that the adult male has a winter plumage in any way different from the well-known spring dress! In Ridgway's 'Manual' the adult winter plumage is apparently described as the 'First Winter' plumage, as it is stated that "the wings and tail are as in the adult male." In Coues 'Key' we are led to believe that the young male does not acquire the rose color beneath the wings until the first full plumage is acquired.

In the British Museum Catalogue,<sup>2</sup> however, we find the most remarkable statement. Dr. Sharpe evidently had winter birds of various ages before him and in the absence of molting specimens fell back upon the famous color change theory as a solution of the question.

The First Winter plumage is first described and then he adds: "The slight tinge of rose-colour on the breast of the young male greatly develops when the bird is in its winter-quarters, and the streaks on the breast and throat gradually disappear as the red colour spreads upwards, and the adult plumage appears to be gained by a change of feather and not by any moult. As the black spreads on the upper surface the streaks disappear, and at last the ochreous-brown colour, which is characteristic of the young bird, remains only in the shape of edgings to the mantle, back and scapulars," etc. He further states that he has seen no specimen which proves to his satisfaction that the old male has a

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<sup>1</sup>The first year bird, however, often molts his tail in spring along with the body feathers so that in the 'First Nuptial' plumage, the tail is often black while the wings are brown.

<sup>2</sup> Vol. VII, p. 60.

distinct winter plumage, and that in young birds at least, the wing quills are apparently molted in spring!

I need only say that the lower figure of our plate, which represents the adult winter plumage, and which is evidently the condition described by Dr. Sharpe as showing the expansion of the pink, was drawn from a bird secured in Illinois, Sept. 1871, far north of its winter quarters, while another in Mr. Brewster's collection, taken in Oxford Co., Maine, Aug. 20, is actually in the midst of the molt from the brown-winged pink and white 'First Nuptial' plumage to the adult winter plumage here figured.

This clearly illustrates the lack of accuracy with which seasonal plumages are described in our works of reference, and I may say that the Rose-breasted Grosbeak is not alone in this treatment.

The moral seems to be that in the present advanced condition of American ornithology, when we are splitting hairs in the matter of geographical subspecies, it is high time that each plumage that a bird assumes should be properly understood and described, and more attention given to one of the most interesting branches of ornithological science.



## NOTES ON SOME OF THE RARER BIRDS OF WEST- ERN PENNSYLVANIA.

By S. N. RHODS.

DATA for the following observations was secured during several excursions which I have made in the western half of Pennsylvania since June 1. 1894. In the main these notes were taken during field work in the interests of the Carnegie Museum of Pittsburgh from April to October, 1898. Some of the most valuable records are based on specimens in the Carnegie Museum taken by local collectors. I am also indebted to Mr. J. Link of Mt. Washington, Pittsburgh, for the privilege of an examination of rare specimens in his private collection. Mr. Seth Nelson of Round Island, Clinton Co., Mr. M. Larrabee of



Emporium, Cameron Co., and Mr. D. A. Atkinson of Pittsburgh have also furnished some valuable notes, the data kindly given by Mr. Atkinson being of especial value.

Some of these notes merely confirm records already published for the State in Dr. Warren's 'Birds of Pennsylvania' and Mr. Stone's 'Birds of Eastern Pennsylvania and New Jersey,' but are valuable in tracing the distribution and breeding areas of little known species.

*Colymbus holboëlli*. HOLBELL'S GREBE.—"One taken by me in Allegheny Co., March 17, 1895." *Atkinson*.

*Podilymbus podiceps*. PIED-BILLED GREBE.—One seen above the wing-dam at the head of Six-mile Island, Allegheny River, Pittsburgh, in early August, indicates this bird to be a breeder in Allegheny County.

*Larus argentatus smithsonianus*. AMERICAN HERRING GULL.—Frequently noted during migrations along the water courses; often following these far up the smaller mountain streams. "Ohio, Allegheny and Monongahela Rivers, Pittsburgh." *Link*. Sinnemahoning Creek, Clinton and Emporium Counties. *Nelson and Larrabee*.

*Larus delawarensis*. RING-BILLED GULL.—The notes above made for *smithsonianus* apply in large measure to this bird.

*Larus philadelphia*. BONAPARTE'S GULL.—A few seen on the Sinnemahoning. *Larrabee*.

*Sterna hirundo*. COMMON TERN.—"One taken on the Allegheny River, Oct. 8, 1892." *Atkinson*.

*Sterna* sp.? TERN.—"In some spring migrations, see three or four." Cameron Co. *Larrabee*.

*Anas obscura*. BLACK DUCK.—"Rare in Cameron Co." *Larrabee*.

*Anas carolinensis*. GREEN-WINGED TEAL.—"Much rarer than the Blue-winged Teal." *Larrabee*. "One taken at Homestead, Allegheny Co., Oct. 30, 1894." *Atkinson*.

*Aythya americana*. REDHEAD.—"Only one taken at Emporium in the last 20 years." *Larrabee*.

*Aythya vallisneria*. CANVAS-BACK.—"Taken at Tarentum, Nov. 26, 1893." *Atkinson*.

*Eristhura rubida*. RUDDY DUCK.—"Rare at Emporium." *Larrabee*.

*Anser albifrons gambeli*. AMERICAN WHITE-FRONTED GOOSE.—"One shot in Allegheny Co., Nov. 28, 1895." *Atkinson*.

*Olor* sp.? SWAN.—Two seen on the Susquehanna River at Keating in spring of 1896." *Nelson*. "In 1886 one was taken on the West Branch in Clearfield County." *Nelson*.

*Botaurus lentiginosus*. AMERICAN BITTERN.—"Occasionally in

Allegheny Co." *Link*. A pair noted breeding at Hookstown, Beaver Co. "Taken at Emporium." *Larrabee*.

*Botaurus exilis*. LEAST BITTERN.—One taken near Pittsburgh several years ago after a great storm. *Link*.

*Fulica americana*. AMERICAN COOT.—"A few noted at Emporium." *Larrabee*. "Bellevue, Allegheny Co., September 11, 1968." *Atkinson*.

*Tringa minutilla*. LEAST SANDPIPER.—Occasionally during migrations along the Ohio River and its larger tributaries. *Link*. Two specimens taken May 18 near Pittsburgh in the Carnegie Museum.

*Ereunetes pusillus*. SEMIPALMATED SANDPIPER.—Now and then taken along the Ohio below Vanport, Beaver Co. *Link*.

*Calidris arenaria*. SANDERLING.—Davis Island, Pittsburgh, April 21, 1894." *Atkinson*.

*Totanus melanoleucus*. GREATER YELLOW-LEGS.—Occasionally stopping in the vicinity of Pittsburgh during migrations. One taken on Davis Island in August, 1898, after a cyclone. *Link*. "Rare at Emporium." *Larrabee*.

*Totanus flavipes*. YELLOW-LEGS.—"Taken on Neville Island, Allegheny Co., Sept. 16, 1896." *Atkinson*.

*Totanus solitarius*. SOLITARY SANDPIPER.—The late date at which one of these was noted at Beaver coincides with Mr. W. E. C. Todd's statement that they breed in the County.

*Charadrius squatarola*. BLACK-BELLIED PLOVER.—"Taken on Neville Island, Allegheny Co., Apr. 26, 1894." *Atkinson*.

*Meleagris gallopavo*. WILD TURKEY.—Practically exterminated in the southwestern part of Pennsylvania. A few linger in Clinton County. A flock of twenty or more were seen near Keating in that County early in November, 1898. "Four were killed near Lock Haven on Queen's Run a few years ago. Near Flemington Wagner saw 27 in one flock." *Nelson*. I came upon a flock of newly hatched young with dam on the summit of Tuscarora Mountain, Fulton Co., in June, 1889.

*Colinus virginianus*. BOB-WHITE.—"Never saw one at Emporium in 20 years' residence." *Larrabee*. "Exterminated: one seen this spring at Round Island." *Nelson*.

*Ectopistes migratorius*. PASSENGER PIGEON.—Three western Pennsylvania specimens are in the Carnegie Museum. One from Washington County, shot 18 years ago, and two from Erie County, presented by Mr. Geo. B. Sennett. No recent records of the appearance of this Pigeon were secured. "In 1892 three flocks were seen in Potter County. Twenty years since any were seen at Round Island." *Nelson*. "Seven years since any were seen in this vicinity (Emporium). They nested fourteen years ago in a beechwood tract on the line between Cameron and McKean Counties." *Larrabee*.

*Cathartes aura*. TURKEY VULTURE.—A rare straggler into western Pennsylvania north of Pittsburgh. I saw one at Beaver in May, 1898. "Never seen in the region of Emporium." *Larrabee*. "Very rare; have seen one near Round Island." *Nelson*.

*Aquila chrysaetos*. GOLDEN EAGLE.—"Two taken in Cameron County, one in March, 1892, the other in March, 1894." *Larrabee*.

*Pandion haliaetus carolinensis*. AMERICAN OSPREY.—The comparative rarity of this bird during the breeding season in the mountain districts makes the following note worthy of record:—"One nested in the mountains near Round Island somewhere along Cook's Run." *Nelson*.

*Strix pratincola*. AMERICAN BARN OWL.—The scarcity of extensive marshes and bottomlands in western Pennsylvania is probably the cause of the reputed scarcity of this bird in that region. "Very rare. I never saw one in the flesh." *Link*.

*Nyctala tengmalmi richardsoni*. RICHARDSON'S OWL.—A specimen of this extremely rare bird is in the Carnegie Museum collection. It was taken by the donor, Mr. D. A. Atkinson, in Allegheny County, March 12, 1896. Mr. Atkinson, mistaking its identity, had labeled it Acadian Owl. There are no previous records of the occurrence of this Owl in Pennsylvania known to me.

*Nyctala acadica*. SAW-WHET OWL.—Not rare in the mountains. "South Side Cemetery, Pittsburgh." *Link*.

*Nyctea nyctea*. SNOWY OWL.—"Several sent to me from Bally's Run, Cameron Co., in 1893." *Larrabee*.

*Ceophloeus pileatus*. PILEATED WOODPECKER.—Rare, even in the wilder mountain regions, perhaps owing to the almost complete destruction of dense virgin timber. I heard only one near Laughlintown, Westmoreland Co., during a month's stay. One was noted in Clinton Co. during six weeks camping and tramping on the mountains near Round Island.

*Melanerpes carolinus*. RED-BELLIED WOODPECKER.—"Rare; only seen in the nut season in Allegheny Co." *Link*. "Very rare: one taken near Emporium in May, 1894." *Larrabee*.

*Empidonax flaviventris*. YELLOW-BELLIED FLYCATCHER.—Two taken at Beaver, May 21, 1898, are in the Carnegie Museum.

*Empidonax acadicus*. ACADIAN FLYCATCHER.—Only one specimen of this common eastern species was noted. It was seen at Laughlintown in June.

*Otocoris alpestris praticola*. PRAIRIE HORNED LARK.—I was much surprised to find the Horned Lark breeding in the suburbs of Pittsburgh. A family of six in Schenley Park, were frequently noted, feeding along the Park drives. Mr. Link has also taken young in summer at Riley's Ford, Allegheny Co. I was informed by a local collector that it also breeds in Beaver and Butler Counties. None were noted in Westmoreland County during my stay. Mr. Atkinson informs me that he found a nest and four young of this species in the oval of the Schenley Park Race Track. The nest is in the Carnegie Museum.

*Corvus corax sinuatus*. AMERICAN RAVEN.—One seen during stay in Clinton Co., Oct., 1898. Nelson says they invariably appear where otter is left by the deer and bear hunters in winter.

*Dolichonyx oryzivorus*. BOBOLINK.—To an east Pennsylvanian the frequent instances of the breeding of this bird in the State west of the Alleghenies are both a surprise and a pleasure. They seem to be summer residents in favorable situations in most of the southwestern counties visited by me. In no place could they be called abundant. "They breed in the Potter County meadows." *Larrabee*.

*Xanthocephalus xanthocephalus*. YELLOW-HEADED BLACKBIRD.—"One taken in a flock of Redwings, Apr. 26, 1895, in Allegheny Co." *Atkinson*.

*Pinicola enucleator*. PINE GROSBEAK.—I examined winter specimens taken near Emporium in Mr. Larrabee's collection. "Allegheny Co., Jan. 14, 1898." *Atkinson*.

*Loxia curvirostra minor*. AMERICAN CROSSBILL.—Breeding in the Clinton County mountains. "Allegheny Co., Jan. 14, 1898." *Atkinson*.

*Spinus pinus*. PINE SISKIN.—Breeding in the mountains of the northwest counties.

*Ammodramus sandwichensis savanna*. SAVANNA SPARROW.—This species was noted singing along the roadside near Bedford Springs in Bedford County, in June, 1894.

*Chondestes grammacus*. LARK SPARROW.—An individual, from its actions evidently nesting, was seen on the road from Bedford Springs to Hyndman in Bedford County, in June, 1894. A fine specimen taken at Leetsdale, Allegheny Co., in May, 1898, is in the mounted collection of the Carnegie Museum.

*Junco hyemalis*. SLATE-COLORED JUNCO.—The following breeding records may be of value:—Laurel Ridge, two miles east of Laughlintown, Cresson and Summit, Cambria and Blair Counties. Round Island, Clinton Co.

*Melospiza georgiana*. SWAMP SPARROW.—A rarity. Two seen at Beaver in early May.

*Piranga rubra*. SUMMER TANAGER.—One was seen by Mr. Link in the South Side Cemetery, Pittsburgh, several years ago.

*Lanius ludovicianus*. LOGGERHEAD SHRIKE.—Two or three Allegheny County specimens are in the Carnegie Museum.

*Vireo solitarius*. BLUE-HEADED VIREO.—Breeding near Laughlintown, Cresson, Summit and Round Island.

*Protonotaria citrea*. PROTHONOTARY WARBLER.—"One taken in Allegheny Co., May 17, 1892." *Atkinson*.

*Helmitherus vermivorus*. WORM-EATING WARBLER.—One seen near Pittsburgh by Mr. Link.

*Helminthophila pinus*. BLUE-WINGED WARBLER.—I heard the song of one near Beaver in May, but none were seen there. On the foothills of Laurel Ridge, near Laughlintown, two or three pairs were found breeding. "One taken April 23, 1894, in Allegheny Co." *Atkinson*.

*Helminthophila chrysoptera*. GOLDEN-WINGED WARBLER.—The abundance of this rare eastern species in the breeding season in Allegheny, Beaver, and Westmoreland Counties was noticeable.

**Dendroica tigrina.** CAPE MAY WARBLER. — Mr. Link has seen seven examples of this species, some of which were taken in the Pittsburgh City limits. I examined two specimens in his collection taken there. "A specimen taken in Allegheny Co., Aug. 28, 1896." *Atkinson.*

**Dendroica cerulea.** CERULEAN WARBLER. — So far from this being a very rare bird, as in eastern Pennsylvania, it may be said to be numerous in the southwestern part of the State, where it breeds. I found it breeding in the vicinity of Pittsburgh, Beaver, and Ligonier, Westmoreland Co. It does not breed in the mountain districts of that County, however, none being seen at Laughlintown. It is a very loud and persistent songster.

**Geothlypis agilis.** CONNECTICUT WARBLER. — A male specimen was taken by Mr. Link, June 4, 1894. Another now in the Carnegie Museum was shot at Leetsdale, Allegheny Co., May 24, 1898, a female.

**Geothlypis philadelphia.** MOURNING WARBLER. — I found this bird breeding near Laughlintown; several pairs being noted on Laurel Ridge.

**Geothlypis trichas.** MARYLAND YELLOW-THROAT. — The great scarcity of this bird in Allegheny and Beaver Counties was a surprise to me. Only two were noted. A few were found breeding at Laughlintown.

**Sylvania mitrata.** HOODED WARBLER. — Two seen in May at Beaver. One singing male noted near Laughlintown in June. A specimen was taken at Leetsdale in May, 1898. They appear to be rare.

**Anthus pensilvanicus.** AMERICAN PIPIT. — The late spring and early August appearances of this bird in Beaver County noted by me suggest that it may be found breeding in the northwestern counties of Pennsylvania.

**Thryothorus bewickii.** BEWICK'S WREN. — In 1894 I discovered this bird breeding on the top of Tuscarora Mountain, Fulton County. One specimen was taken at Beaver, April 27, 1898. Two were recorded by me near Round Island, May 27, 1896.

**Cistothorus stellaris.** SHORT-BILLED MARSH WREN. — "One captured in Allegheny Co., May 4, 1894." *Atkinson.*

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## AN EXAMPLE OF APTOSOCHROMATISM, AS INFLUENCED BY DIET, IN *MEGASCOPS ASIO*.

BY FRANCIS J. BIRTWELL.

IN THE following pages I shall attempt to detail an account of a very remarkable example of color change without moult or feather loss (Aptosochromatism); but unfortunately the results

are very incomplete. My intention had been to carry the investigation quite exhaustively into the departments of chemistry, physics and microscopy, feeling certain that each test and experiment would intensify the central feature of the subject, but discovering that I have acquired phthisis I am compelled to abandon all confining work and leave home for the West. My data, however, may be of assistance to some future worker, who with it, and his own, will be enabled to prove — what so many will not admit, and without full warrant — the repigmentation of a feather after it has assumed the mature condition. Under the circumstances, therefore, the incompleteness of the present paper will kindly be overlooked.

Anyone who has read Dr. Chadbourne's article (Auk, Oct., 1896, and Jan., 1897) upon this subject must have felt keen disappointment at the untimely death of the Owls upon which he was working, and it was largely to carry on the unfinished work, that I at once availed myself of the opportunity presented when some excitable Blue Jays betrayed to me the hiding place of a pair of Screech Owls, March 30, 1898.

The birds were readily taken home and introduced into a shed in which boxes were placed for sleeping and a small cedar tree for perching. The larger bird was in the extreme light gray phase of coloration, the smaller Owl being in the bright red condition. Only the gray bird lived, the other one dying twelve days later. On Dec. 30, 1898, another red bird was captured and placed with the first, but was promptly eaten, so I made no further attempts to obtain another. Both red birds were easily handled, but the marks of the bill and claws of the gray bird were present invariably upon my hands after each interview. By stroking the bird's head, however, I could cause it to close both eyes and fall into a state of apparently perfect oblivion from which the plucking of specimen feathers rarely aroused him, thus enabling me to make frequent and careful examinations of the plumage.

I endeavored to promote as natural conditions for my bird as possible — kept him in the loosely built shed at all times when the weather conditions could be as favorable for my purpose as possible, gave him a mouse or a Sparrow at frequent intervals to regulate him, and gave fresh water for drinking and bathing.

Upon certain occasions when it was difficult to obtain Sparrows or mice, I gave beef mixed with cotton wool which appeared to be perfectly acceptable. Food was given upon alternate days, usually about dusk, and an average of two ounces of food was given each time. Sometimes the bird would voluntarily fast for three and four days. For the major part of the time I conducted the feeding personally and when unable to do this had it carried on under strict orders. Each few days, cast off feathers were carefully sought for and a very limited number found, not enough for an average of three a week excepting during the moult of September, 1898, when a complete renewal ensued. By far, down feathers were shed in the greatest abundance, and the few contours found were, in the majority of cases, injured or abraded.

Thus once and for all we may dismiss any possibility of increased feather loss causing direct interference with my following remarks.

At this point it may be well to discuss briefly a few of the terms employed. A great deal of useless controversy has been expended over the comprehension of exact definitions, and it is my purpose to avoid this. Aptosochromatism and Ptosochromatism have been defined in my article on the 'Occurrence of Aptosochromatism in *Chrysotis levaillanti*' (*Osprey*, April, 1899), and as such will be employed here. 'Moult' is an exceedingly convenient term as defined by Dr. Chadbourne (*Auk*, April, 1897, p. 146) and is thus used. Ptosochromatism may be regarded as a restricted process of moulting, although the two terms are by no means synonymous. 'Color change,' unless modified by qualifying terms, refers exclusively to alterations of color or structure within the feather itself, due to vital causes within the feather organism.

From April 3 until the 12th (the birds fasting until the 3d) various kinds of food were given, the birds meanwhile becoming accustomed to their change of quarters, but after the last named date, a careful feeding of beef, lamb and chicken livers (and sometimes kidneys) was begun and maintained until May 27, 1898—a period of 53 days. During this time about 46 ounces of liver and kidney were eaten and two or three Sparrows. As

suming — as will later be considered — that the unnatural diet was the cause of the change which ensued, we may attribute the gain of additional color in the feathers of the gray bird, to the activity caused by 2 pounds and 14 ounces of the food during a period of 53 days.

As has been before stated, the plumage of the bird was light gray — a typical example of the extreme gray phase. At the time of the discontinuation of the liver diet the feathers of the breast were diffused with burnt sienna very prominently, which tinged the edges of the downy parts and colored the lower portions of the contour parts, while a narrow margin of the same color was present about the edges of the median stripe of black and its lateral branches. I noticed indications of the change as early as April 18, and friends commented upon the altered color of the bird, which was very noticeable from a short distance, April 26. The edges of the flight feathers were also affected and very pronouncedly the ear tufts. The back feathers will be considered later on.

My bird was next put upon a diet of raw beef and kept at it until Dec. 24, 1898 — a period of 211 days, during which the bird moulted completely once and consumed approximately 10 Sparrows and mice, and 190 ounces of beef. The first indications of the effect of the new diet were noticeable in a few weeks and in a curious manner. Gradually two dull sooty areas began to appear upon the breast and belly, these becoming confluent and diffusing over the entire under parts — more intense upon the breast. A feather from the breast while in this condition showed dull dusky bands radiating from an indistinct median stripe and upon a ground color of dirty white. A faint trace of rufous was present at the anterior end. This phase soon lightened until by the time of moult (Sept. 13, 1898) the bird was back in the light gray state as when captured. The melanistic condition might have been due to the mixing of the color producing substances of the reddish and gray conditions, forming an intermediate or transitional stage. However, the microscope could determine this. Up to this time (Sept. 13) my bird had eaten about 98 ounces of beef in a space of 109 days.

The moult lasted until November, when the gray stage was



still present, as before the increased feather loss. This condition prevailed until the effects of the liver diet begun on Dec. 25, 1898, began to be felt. For 154 days, or until May 28, 1899, this food was kept up. Then through necessity I was obliged to discontinue it as the bird, tired of its one-sided fare, fasted for three and four days together repeatedly and often only tore the food up into small pieces without eating it. By the above date, however, about 12 lbs. of liver were eaten. Feb. 22, 1899, the bird was very noticeably rufous colored from a distance, and this intensified with time, although the color never became profuse enough to cause a general resemblance to the color of the extreme typically red phase as found commonly in the wild state. Especially prominent were the rich borders of the two black spots of the upper breast, and as in the first red state—the colors of the ear tufts were markedly changed. During the latter few weeks, the change was very slow and it was very difficult to get the bird to eat. By May 28, however, he was much more strongly colored with rufous than before.

The beef was again put on and rapidly the bird assumed the dusky state and was immerging from this when, as has been before explained, I was obliged (July 22, 1899) to let it go. The bird flew off swiftly and in its wake the majority of House Sparrows of the vicinity. In this case, 55 days had elapsed since the change of diet, and 45 ounces of beef had been eaten.

In the back feathers the contrasting colors of the two diets were very plainly in evidence, the dull brownish areas of the feathers of the beef diet, being strongly shot with reddish in the feathers under the influence of liver.

Once, for a week, I tried the effects of bread soaked in blood but this food was emphatically rejected. It would have been interesting to have noted the effects caused by a fish diet, or a mixed one, and it is to be hoped that these will be carefully tried at some future time. The forced and one-sided diet appears to be the only marked departure from the ordinary mode of living which would be powerful enough to influence my Owl in such a marked degree, and I confidently believe it to be, at least, the principal cause. While these results do not for a moment attempt an explanation of the occurrence of the two phases in nature they

may supply a hint or two, but these will not be dwelt upon just here.

To conclude, we may affirm, that beyond doubt there was a marked change of color in the feathers of my Owl from gray to a reddish cast; that this was not concurrent with any pronounced feather loss (ptosochromatism); that it was undoubtedly, as seen at the present, influenced partly, if not in whole, by an unnatural diet (liver and kidney); and that in consequence it is an example of abnormal aptosochromatism.

It appeared from the macroscopic nature of the change that repigmentation was forcibly present but to my misfortune, being unable to further investigate this, I will leave it open to the judgment of my readers.

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## THE COLOR OF CERTAIN BIRDS, IN RELATION TO INHERITANCE.

BY I. BICKERTON WILLIAMS, F. Z. S.

THERE are two powerful tendencies whose working has, apparently, determined, to a large extent, the differences and the resemblances in the color of birds, as well as many others of their characters.

These are 'Variation,' on the one hand, tending to produce desirable and necessary changes through the action of natural selection; and 'Inheritance,' on the other, tending to preserve and hand down those forms and qualities that were useful and beneficial to former generations, and which, even now, are not injurious.

In the determination of color, sometimes one of these tendencies seems to have got the upper hand, and sometimes the other. There are certain bird groups that display so many different styles and colors, that, like modern fashions, one might imagine they had been adopted merely for the sake of variety; while, in other groups, some ancient style of plumage and color appears to have

been handed down, almost unchanged, from primitive times; like the Highland costume, which, among ourselves, still survives as a memorial of the past.

The Pigeons are a very homogeneous order of about four hundred and fifty species, and it is not difficult to believe that they all sprung from some primeval pigeon-like bird.

They are divided by Count Salvadori<sup>1</sup> into three principal families — the Tree Pigeons (Treronidæ), Typical Pigeons (Columbidæ), and Ground Pigeons (Peristeridæ). There are, also, two small and peculiar families: the Crowned Pigeons (Gouridæ) with six species, inhabiting New Guinea and some neighboring islands; and the Tooth-billed Pigeon (*Didunculus*), which forms a family by itself. These last two families represent an older type than the others, and are more nearly allied to the extinct Dodo, which used to inhabit Mauritius.

The legs of the Crowned Pigeons are covered all over with small hexagonal scales. Birds with this kind of leg covering are, usually, of ancient type, for it is a more reptilian style than the broad scutellæ which most of them possess.

Gray is the general color of the Crowned Pigeons, with some chestnut markings on the wing-coverts, and a band of chestnut across the back, or the breast.

The Tooth-billed Pigeon has chestnut on the back and wings, though the gray has nearly disappeared, and only a slight tinge of it remains round the sides of the lower neck and on the mantle.

The Dodo, and its near ally, the Solitaire, were both gray birds; the one is described as having been "an ash-color," and the other "a brown gray."

Now, in almost every Pigeon, we find some trace of these primitive colors: some gray, usually on the head or neck; some chestnut, or other reddish shade, on the bend of the wing, or across the back or breast.

In the richly colored group of Tree Pigeons, variation has apparently got the upper hand, but even in a species like Swainson's Fruit Pigeon (*Ptilopus swainsoni*) a little gray still remains on the head, and the beautiful green feathers of the breast are

tipped with it. The underside of the tail feathers is also gray; while a streak of lilac across the breast is the only trace left of the chestnut band.

The Passenger Pigeon is a fine example of the typical family, where gray usually predominates. The head and rump are a specially bright shade of gray; the breast is suffused with the reddish tint, and on the tail some almost concealed patches of chestnut still exist.

In the Blue-headed Quail Dove (*Starnoenas cyanocephala*), from Cuba, which represents the Ground Pigeons, the chestnut shade has spread nearly all over the body, but the olive brown of the back indicates the presence of a certain amount of the gray shade, and the rest of the gray, by being concentrated on the head, has become a deeper tint than usual. The legs of this bird, like those of the Crowned Pigeons, are covered with hexagonal scales; and the survival of this ancient type of scale, in such distant islands as Cuba and New Guinea, is as interesting and peculiar a fact as the two remaining examples of the tapir family being found, respectively, in the Malay Region and Brazil.

There is, also, a group of the Duck family, consisting of some sixteen or seventeen species, which form the subfamily Plectropterinae of Count Salvadori's classification;<sup>1</sup> and all of them display a certain similarity in coloring that has, apparently, been handed down from a primeval type.

The Horned Screamer (*Palamedea cornuta*) represents a very old form of bird allied to the Ducks. It has spurs on the wings, hexagonal scales on its legs, and a curious horn-like projection on the head. Its main colors are glossy black above and white below.

The Pied Goose of Australia (*Anseranas melanoleucus*) is a more duck-like bird, with partially webbed feet; its general color is black above and white below, and it occupies an intermediate place between the Horned Screamer and the Plectropterinae, of which the Spur-winged Geese of Africa are typical members; they, also, are glossy black above and white below, and have a knob, instead of a horn-like growth, on the top of the head.

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<sup>1</sup> Brit. Mus. Cat. of Birds. Vol. XXVII.

The Black-backed Goose of India and Africa (*Sarcidiornis melanonota*) also shows a similar black and white plumage, and a fleshy knob on the beak, but 'variation' is driving the black from the head and neck, which presents, in consequence, a most curiously speckled appearance.

In the Wood Duck (*Aix sponsa*) which also belongs to this group, variation has certainly got the upper hand: the fleshy knob has been succeeded by a crest of beautiful feathers; and, altogether, the bird has become one of the handsomest of its tribe; though it still retains the dark glossy back and wings, and the long rounded tail feathers, which are distinguishing marks of nearly all the subfamily.

The Pigeons and Ducks afford an illustration of the inheritance of general colors; but, in some groups, patches and spots of special color seem to be inherited, and become recognition marks of several allied families.

The strong tendency of the Woodpeckers to display a patch of red, or sometimes yellow, on the head of the male bird is well known; but the three other, most nearly allied, families of the zygodactyle Picariæ, viz., the Barbets, Toucans, and Honey-guides, have a similar tendency to show a red or yellow patch on the head or the rump, sometimes on both.

More than ninety of the hundred and twelve known species of Barbet display patches of one or other of these colors, and the few that are without them are generally dull colored birds.

In the Toucans the crimson or scarlet patch on the rump or crissum is a marked feature of the family. In a few species the patch is chestnut; but there are only four or five of the fifty-nine recognized species that are altogether without it.

Nine out of the twelve Honey-guides have some shade of yellow on the lower back or rump, and two, out of the three exceptions, have a white patch.

Like the Woodpeckers, these three families all nest in hollow trees, and lay white eggs.

Their national colors are, evidently, red and yellow.

The Kingfishers are as remarkable for their attachment to blue, or sometimes green, as the Woodpeckers to red. Many species are almost entirely blue on the upper surface, in others

the blue is confined to patches on the lower back, and on the wings. In the Belted Kingfisher it is diffused, as bluish gray over the whole upper surface.

Even a species like the Ruddy Kingfisher (*Halcyon coromandus*), whose plumage is almost entirely chestnut, has, still, a distinctly blue reflection on the white rump, and a purple gloss lingers over the upper surface of the back and wings. The Laughing Kingfisher (*Dacelo gigas*) has, also, notwithstanding its sombre tints, some bluish spots on the wings and rump.

Blue, or green, is a predominant color in the Rollers, Bee-eaters and Motmots,—the three anisodactyle families that are most nearly allied to the Kingfishers. The Rollers have generally rich shades of blue on the wings and tail, as well as on other parts; and the other two families have, as a rule, some bright patch of it on the head or rump.

Like the other group, they all lay white eggs, which are concealed, either in tunnels excavated in the banks of streams or in hollow trees.

Why should the zygodactyle group have a red tendency, and the anisodactyle a blue tendency? It has nothing to do, apparently, either with food or climate.

Is it not, probably, an inheritance from the primeval type of each group, which has become so strongly fixed in the constitution that it is almost impossible to get rid of it?

We may conclude, I think, that color, evanescent and transitory as it sometimes seems, is, under certain aspects, almost as good a guide in classification of birds as the shape of the bill, or the arrangement of the toes.

The groups here noticed were specially suggested by the birds that happened to be in the Natural History Society's Museum at Montreal; but the same persistence of primitive colors could, probably, be traced in other orders, where some early type of the group is still represented by a living form.

## OVER-LOOKED DESCRIPTIONS OF FIVE HUMMINGBIRDS.

BY CHARLES W. RICHMOND.

A RECENT examination of a rare literary and scientific journal, the 'Registro Trimestre,'<sup>1</sup> has brought to light descriptions of five species of Hummingbirds which have, apparently, not been quoted in ornithological literature since Dr. Coues referred to them in his 'Ornithological Bibliography'<sup>2</sup> some years ago. The 'Registro Trimestre' is known to ornithologists chiefly as the journal in which Dr. Pablo de la Llave described the Resplendent Trogon (*Pharomachrus mocinno*), although descriptions of three species of *Tetrao* by the same author also appeared here. These descriptions (in vol. I, nos. 1 and 2, Jan. and Apr., 1832), were, on account of the scarcity of the original journal, reprinted in the *Revue et Mag. de Zool.*, 1861, 23-33; 425-429; the last mentioned also in *La Naturaleza*, VII, app., 1884, 63-65. It is not generally known, however, that a second volume of the 'Registro' was commenced, and it is in this extra number (no. 5, for Jan., 1833<sup>3</sup>) that the forgotten descriptions of Hummingbirds, also by De la Llave, occur. Fortunately, only one name in current use appears to be affected by De la Llave's paper, although all of the species mentioned in it are credited to our fauna. As, however, the shifting of names and unexpected complications of nomenclature constantly taking place may at any moment necessitate the use of one or more of these terms, it is very desirable that the descriptions be reprinted and made generally accessible.

The descriptions follow (*verb. lit. et punct.*):

T. [rochilus] COHUATL. = Rostro curvo, nigro, plusquam pollicari. = Corpus de rostri basi ad uropigium, duobus pollicibus minus, totum supra splendore aureo tinctum. = Remiges nigrescentes; cauda brevis furcata,

<sup>1</sup> Mexico, 8vo, vol. I, 1832, nos. 1-4; vol. II, 1833, no. 5.

<sup>2</sup> Bull. Geol. and Geogr. Surv. Terr., V, no. 4, 1880, p. 665.

<sup>3</sup> Not published before March, as the last article is dated Feb. 28.

rectricibus acutis, apice nigrescentibus, margine nonnisi albis. Subtus, cinereus, gula et suprema pectoris parte, pennae amethystinae multo majoribus ac quodammodo laxius vestitus. = Para amethystina, quae primo aspectu superimposita sese offert, notabilis est, pennarum magnitudine et modo. Rutila haec avis a *T. amethystino*. Linnei distinguitur. rostro curvo, et quia in ejus descriptione nulla mentio fit magnitudinis pennarum pectoralium, quae si in amethystino adesset talis nota a celeberrimo Linn. omissa non fuisset. [p. 47.]

This is *Calothorax lucifer* (Swains.), 1827.

T. [rochilus] XICOTENCAL. = Rostrum rectum, pollicare, ad medietatem usque albidum, apice nigrescens. = Corpore exili, Cohuatl aequans magnitudine. Supra oculum, macula albido-rufescens animadvertitur, in lineolam albam desinens. = Caput zaphirinum est, remiges nigrescentes, totumque supra cauda inclusa, quae corpus magnitudinem aequat, aureo nitore luget. = Subtus, collum zaphirinum est, pectusque smaragdo splendet, abdomine cinereo, una alterave lineola deaurata. Differt a *Zaphirino* Linn. qui cauda et gula rufis sese ostendit, nec pectore smaragdino indutus apparet. [p. 48.]

*Basilinna leucotis* (Vieill.), 1818.

T. [rochilus] TZACATL. = Rostrum pollicare, mandibula superiori nigra, inferiori albida, apice nigrescenti. = Corpus 2½ pollices aequat. = Collum supra, alarum tectrices, majorque dorsi pars, aureo splendore vividissimo illuminatur. = Remiges aeneo lucent, caudae cinnamomea purpurino violaceoque nitet. = Caput, collum subtus, pectusque, et abdomen, luce smaragdina splendent, sed inferior abdominis pars cinerea est, lineolis paucis deauratis. = Cauda, avis magnitudinem aequat, rotundataque sese exhibit. Quatuor species Trochilorum Linneus enumerat, quorum mandibula superior nigra est, et inferior alba, scilicet, *Fimbriatus*, *Leucogaster*, *Tobaci*, *Ruber*, sed horum nullus cum nostro convenit, ut videre potes, descriptiones conferendo. [p. 48.]

This is *Amazilia fuscicaudata* (Fraser), 1840, which will thus become *Amazilia* or *Amazilia tzacatl* (De la Llave). Ornithologists from all quarters will now be able to agree upon one name for this species, which is dedicated to Tzacatl, a Mexican General or Commander.

T. [rochilus] PAPANTZIN. = Rostrum nigrum, rectum, pollicem et alterius dimidium aequans. = Corpus, tripollicare, pone oculum macula alba, capite Zaphirino, de coetero aureum totum supra, remigibus exceptis



nigrescentibus. = Collum subtus, pectusque superiori parte, smaradigno splendent, in viridem cerulescentem varianti. = De pectore ad abdominis medietatem, nigro velutinus est, in aureo-olivaceum transiens, crisso fusco-aureo, caudaque aliquantulum furcata, tripollicari, rectricibus aureis apice rotundatis. [p. 48.]

Obviously, this is *Eugenes fulgens* (Swains.), 1827.

T. [rochilus] TOPILTZIN. = Rostrum rectum, nigrumque est, pollice paullo majus. = Corpus subtripollicare, lincola alba ad latus oculi. = Caput zaphirimi splendoris aliquamtullum reflectit, corpore supra deaurato, remigibus fuscis, rectricibus nigrescentibus, apice amplis et albis, caudam componentibus, tripollicarem et rotundatam. [p. 49.]

This is evidently *Caeligena clemenciae* (Less.), 1829, but the colors of the throat and crown are transposed.

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## ON THE DATE OF LACÉPÈDE'S 'TABLEAUX.'

BY CHARLES W. RICHMOND.

IN 'Natural Science' for Dec., 1897, 432, Mr. C. Davies Sherborn has brought forward a very interesting subject—that of the first published appearance of Lacépède's 'Tableaux,' usually credited to the Mémoires de l'Institut, 1801, but as this writer has noted, sometimes cited vaguely "1799." During his efforts to solve the question of date, Mr. Sherborn discovered these 'Tableaux' in the "Didot" edition of Buffon, at the end of Vol. XIV of the Quadrupèdes, which, it appears, bears the date 1799 upon its title page. The "Didot" edition, in 18mo, is said to consist of 76 volumes, dating from 1799 to 1806; the genera, Mr. Sherborn states, are to be credited to Lacépède, and the species to Daudin. The latter doubtless here described various birds intended to appear in his 'Traité,'<sup>1</sup> and an account of them, by

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<sup>1</sup> To have been completed in 6 volumes, according to the prospectus in the Journ. Typographique. Vol. I was published Jan., 1800; vol. II, publ. May, 1800, and the third volume was in the press and would not be long in appearing (Journ. Typ.). It was, however, never published.

any one who has access to the work, will be very acceptable to ornithologists.

Not long since, having occasion to examine the 'Journal Typographique,'<sup>1</sup> I unexpectedly found the "Didot" edition announced in course of publication by Plassan, in monthly livraisons of two volumes each. Further inquiry brought to light the fact that only a small portion of the work (9 livraisons) was issued in 1799, and vol. XIV of the Quadrupèdes (in livr. 35), was not published until Oct., 1802!<sup>2</sup> Again, it appears that the Didot's had no connection with the work before 1803, as the following "avis" (Journ. Typ., Aug. 25, 1803, 358) will show:

"MM. *Pierre Didot l'aîné*, et *Firmin Didot*, viennent d'acquérir, et de réunir à leur *Collection stéréotype*, l'édition, de format in-18, de l'*Histoire naturelle de Buffon*, revue par son continuateur, *M. Lacépède*, membre de l'Institut national des sciences et des arts; ils stéréotypent en ce moment-ci, et mettront très-incessamment en vente les 4 vol. qui terminent l'*Histoire naturelle des poissons*, par *M. Lacépède*, et complètent en même tems cette édition, dont les trente-cinq premières livraisons ont été imprimées par *M. Plassan*. Nous imprimerons dans notre prochain No., leur nouveau *Prospectus*, qui se distribue chez eux, avec leur notice stéréotype."<sup>3</sup>

Thus it would appear that the first 70 volumes constituted Plassan's edition, and the last 6 Didot's. If Didot's imprint occurs in the early volumes of the set quoted by Mr. Sherborn it would indicate a reprint of Plassan's edition. Why the later volumes should be dated 1799 I cannot surmise, unless it be that the set of 70 volumes was intended for publication in that year, and the plan to issue in monthly livraisons, an afterthought. Antedated

<sup>1</sup> A weekly journal, published in Paris from 1797 to 1810, devoted exclusively to the announcement of new works, music, etc.; succeeded, in 1811, by the 'Journal Général de l'Imprimerie et de la Librairie.'

<sup>2</sup> Engelmann's reference (Bibl. Hist. Nat., 1846, 322) to a tract containing these tableaux "in-18. Paris, 1802. Plassan," is additional evidence. Engelmann gives the whole work as dating from 1799 to 1802.

<sup>3</sup> In the forty or more notices of this work in the 'Journal Typographique,' between 1799 and 1802, there is no reference to the Didots.

works<sup>1</sup> are not uncommon, especially in the case of French works issued in livraisons.

The "Didot" or Plassan edition disposed of, it becomes necessary to determine the original place of publication of the tableaux. Mr. Sherborn quotes from Engelmann (Bibl. Hist. Nat., 1846, 376) a tract "in-4. *Paris. an VII. (1799). Plassan. (38 pag.)*," supposed to contain these papers,<sup>2</sup> but waiving this as inaccessible and doubtful, the earliest published reference, in the case of the bird portion, appears to be Daudin's 'Traité,' Vol. I,<sup>3</sup> Jan. 1800 (422-438). Here the principal bird classifications from Johnston, 1657, to Lacépède, 1799, are shown, with more or less detail, giving in each instance the name of the author and work from which it was extracted. Lacépède's tableau (in full, but differing in some details from that of 1801), however, is cited simply as "Méthode de Lacépède, 1799," indicating apparently that it was previously unpublished. Having been read before the Institute June 9, 1799, it was undoubtedly accessible to Daudin. The specimens in the Paris Museum were at that time arranged, and no doubt labelled according to the tableau. (*Cf.* Daudin, *Traité*, I, 35.)

The various genera in our Check-list credited to Lacépède, 1801, and others to Cuvier, *Leçons d'Anat. Comp.* I,<sup>4</sup> should properly be quoted "Lacépède, in Daudin, *Traité*," etc.

In order to render the dates of publication of the Plassan

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<sup>1</sup> Byron's *Narrative of the voyage of the 'Blonde,'* dated 1826, was publ. Feb. 20, 1827; the *Appendix to Parry's 2nd voyage*, dated 1825, was publ. in Feb., 1827; Swains. & Rich. *Fauna Boreali-Americana*, II, dated 1831, was publ. in Feb., 1832.

With French works it was often the practice to issue the title page, table of contents, etc. in the first livraison; among antedated works may be noticed Vieillot's *Ois. Am. Sept.*, dated 1807, but published in 22 livraisons, of which the first was issued Dec. 1, 1807! — The *Zoölogy of the voyage of the 'Uranie' & 'Physicienne,'* dated 1824, was published in 16 livraisons, the last in June, 1826, etc.

<sup>2</sup> There is no mention of such a tract in the *Journ. Typ.* for the year 1799.

<sup>3</sup> Announced in the *Journ. Typ.*, Jan. 19, 1800. Giebel (*Orn. Thesaurus*, I, 1872, 3), for some reason, gives it as "1799."

<sup>4</sup> Published in April, 1800 (*Journ. Typ.* Apr. 19, 1800).

edition of Buffon available, a list of the livraisons, with contents and dates is appended.

"Histoire Naturelle par Buffon, mise dans un nouvel ordre, par le cit. Lacépède, membre de l'Institut national de France.

"Cette édition de format *in-18*, paraîtra par livraison de deux volumes chaque mois, sans interruption, à compter du 1<sup>er</sup> floréal an 7." [= Apr. 20, 1799.]

Livr. 1.	{ Tome I. Théorie de la terre.	} Journ. Typographique.
	{ Tome I. Quadrupèdes.	} Apr. 19, 1799, 209.
Livr. 2.	{ Tome II. Théorie de la terre.	} Journ. Typographique.
	{ Tome I. Oiseaux.	} May 19, 1799, 243.
Livr. 3.	{ Tome III. Théorie de la terre.	} Journ. Typographique.
	{ Tome II. Quadrupèdes.	} June 18, 1799, 275.
Livr. 4.	{ Tome IV. Matières Générales.	} Journ. Typographique.
	{ Tome II. Oiseaux.	} July 18, 1799, 306. <sup>2</sup>
Livr. 5.	{ Tome V. Matières Générales.	} Journ. Typographique.
	{ Tome III. Quadrupèdes.	} Aug. 17, 1799, 346.
Livr. 6.	{ Tome VI. Matières Générales.	} Journ. Typographique.
	{ Tome III. Oiseaux.	} Sept. 16, 1799, 379.
Livr. 7.	{ Tome VII. Matières Générales.	} Journ. Typographique.
	{ Tome IV. Quadrupèdes.	} Oct. 21, 1799, 26. <sup>3</sup>
Livr. 8.	{ Tome VIII. Matières Générales.	} Journ. Typographique.
	{ Tome IV. Oiseaux.	} Nov. 20, 1799, 57.
Livr. 9.	{ Tome IX. Matières Générales.	} Journ. Typographique.
	{ Tome V. Quadrupèdes.	} Dec. 20, 1799, 82.
Livr. 10.	{ Tome X. Matières Générales.	} Journ. Typographique.
	{ Tome V. Oiseaux.	} Jan. 29, 1800, 122.
Livr. 11.	{ Tomes XI, XII. Matières Gén- érales.	} Journ. Typographique.
		} Feb. 28, 1800, 155.
Livr. 12.	{ Tome XIII. Matières Générales.	} Journ. Typographique.
	{ Tome VI. Quadrupèdes.	} Apr. 4, 1800, 202.
Livr. 13.	{ Tome XIV. Matières Générales.	} Journ. Typographique.
	{ Tome VI. Oiseaux.	} Apr. 24, 1800, 227.
Livr. 14.	{ Tome XV. Matières Générales.	} Journ. Typographique.
	{ Tome VII. Quadrupèdes.	} May 19, 1800, 250.
Livr. 15.	{ Tome XVI. Matières Générales.	} Journ. Typographique.
	{ Tome VII. Oiseaux.	} June 18, 1800, 290.
Livr. 16.	{ Tome XVII. Matières Générales.	} Journ. Typographique.
	{ Tome VIII. Quadrupèdes.	} July 23, 1800, 331.

<sup>1</sup> I have converted the dates from the Republican calendar into that now in use.

<sup>2</sup> On p. 318 (Aug. 22) a notice by the editor of the Hist. Nat. states, among other things, that the tableaux méthodiques will be placed at the end of the "histoire des oiseaux."

<sup>3</sup> "Cette édition *in-18* se continue avec le plus grand succès, et mérite à tous égards aux éditeurs les plus grands éloges."

Livr. 17.	{ Tome XVIII. Matières Générales. }	Journ. Typographique.
	{ Tome VIII. Oiseaux. }	Aug. 22, 1800, 365
Livr. 18.	{ Tome XIX. Matières Générales. }	Journ. Typographique.
	{ Tome IX. Quadrupèdes. }	Sept. 22, 1800, 3.
Livr. 19.	{ Tome XX. Matières Générales. }	Journ. Typographique.
	{ Tome IX. Oiseaux. }	Oct. 26, 1800, 34.
Livr. 20.	{ Tome XXI. Matières Générales. }	Journ. Typographique.
	{ Tome X. Quadrupèdes. }	Nov. 30, 1800, 66.
Livr. 21.	{ Tome XXII. Matières Générales. }	Journ. Typographique.
	{ Tome X. Oiseaux. }	Jan. 4, 1801, 107.
Livr. 22.	{ Tome XXIII. Matières Générales. }	Journ. Typographique.
	{ Tome XI. Quadrupèdes. }	Jan. 24, 1801, 132.
Livr. 23.	{ Tome XXIV. Matières Générales. }	Journ. Typographique.
	{ Tome I. Quadrupèdes Ovipares. }	Mch. 5, 1801, 170.
Livr. 24.	{ Tome XI. Oiseaux. }	Journ. Typographique.
	{ Tome I. Poissons. }	Apr. 4, 1801, 203.
Livr. 25.	{ Tome XII. Oiseaux. }	Journ. Typographique.
	{ Tome II. Ovipares. }	May 9, 1801, 243.
Livr. 26.	{ Tome XIII. Oiseaux. }	Journ. Typographique.
	{ Tome II. Poissons. }	June 3, 1801, 267.
Livr. 27.	{ Tome XIV. Oiseaux. }	Journ. Typographique.
	{ Tome III. Ovipares. }	July 3, 1801, 299.
Livr. 28.	{ Tome XV. Oiseaux. }	Journ. Typographique.
	{ Tome III. Poissons. }	Aug. 27, 1801, 355. <sup>1</sup>
Livr. 29.	{ Tome XVI. Oiseaux. }	Journ. Typographique.
	{ Tome IV. Ovipares. }	Oct. 11, 1801, 19.
Livr. 30.	{ Tome XVII. Oiseaux. }	Journ. Typographique.
	{ Tome IV. Poissons. }	Nov. 15, 1801, 50.
Livr. 31.	{ Tome XVIII. Oiseaux. }	Journ. Typographique.
	{ Tome V. Poissons. }	Jan. 29, 1802, 13
Livr. 32.	{ Tome XII. Quadrupèdes. }	Journ. Typographique.
	{ Tome VI. Poissons. }	Apr. 19, 1802, 225. <sup>2</sup>
Livr. 33.	{ Tome XIII. Quadrupèdes. }	Journ. Typographique.
	{ Tome VII. Poissons. }	July 18, 1802, 339.
Livr. 34.	{ Tome VIII, IX. Poissons. }	Journ. Typographique.
		Sept. 16, 1802, 411.
Livr. 35.	{ Tome XIV. Quadrupèdes. }	Journ. Typographique.
	{ Tome X. Poissons. }	Oct. 21, 1802, 30, 31. <sup>3</sup>

[It will be noticed that no reference is made to any place of publication other than the *Mémoires de l'Institut.*]

<sup>1</sup>"Il ne reste plus, pour la terminer, que sept livraisons, que nous publierons régulièrement."

<sup>2</sup>"C'est le nombre considérable de planches de cette livraison, qui en a retardé la publication. Les éditeurs assurent les souscripteurs," etc., etc.

<sup>3</sup>"On trouve à la fin du tome X V des Quadrupèdes, une table dans laquelle tous les quadrupèdes et les oiseaux dont Buffon a traité, sont inscrits dans l'ordre et dans le genre auxquels ils appartiennent, d'après la méthode du cit. Lacépède, publiée dans les *Mémoires de l'Institut national*, et que l'on a suivie pour l'arrangement des collections du Muséum d'histoire naturelle," etc., etc.

A SYNOPSIS OF THE GENUS *CONTOPUS* AND ITS ALLIES.

BY HARRY C. OBERHOLSER.

A CRITICAL examination of the various species of the genera *Contopus*, *Blacicus* and *Myiochanes* reveals the fact that the limits of these groups are badly in need of readjustment. In the first place, *Nuttallornis* Ridgway, proposed in subgeneric sense for *Contopus borealis*,<sup>1</sup> is, by reason of very pronounced characters, without doubt of generic rank. *Blacicus*, which at the present time is commonly held to be an Antillean type, must either be extended to include several South and Central American forms of *Contopus*, or be extinguished entirely. With such changes, however, the group admits of intelligible diagnosis, though *Blacicus barbirostris* Swainson must be removed to *Myiarchus*, where it certainly belongs. The two species currently considered to constitute the genus *Myiochanes* cannot structurally be distinguished from *Blacicus*, and consequently should be included in the latter.

The name *Contopus* Cabanis<sup>2</sup> is antedated by *Contipus* de Marseul,<sup>3</sup> proposed for a genus of Coleoptera. The derivation of these two words is identical, and they differ simply in the connecting vowel; so that according to our usage, as, for instance the rejection of *Campylorhynchus* on account of a prior *Campylirhynchus*, the term *Contopus* must be displaced. *Syrichta* Bonaparte<sup>4</sup> applies to the same group of birds, but is in turn pre-occupied, in Lepidoptera, by *Syrichtus* Boisduval.<sup>5</sup> As there appear to be no other synonyms, a new name is necessary for

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<sup>1</sup> Man. N. Amer. Birds, 1887, 337.

<sup>2</sup> Journ. f. Orn., 1855, 479.

<sup>3</sup> Ann. Soc. Ent. de France, 1853, 543.

<sup>4</sup> Ann. Sci. Nat. sér. 4, Zool. I, 1854, 133.

<sup>5</sup> Icones, 1832-33, 230.

the group to which, in a restricted sense, *Contopus* is now applicable.

*Nuttallornis Ridgway.*

*Nuttallornis* RIDGWAY, Man. N. Amer. Birds, 1887, 337.

Type, *Tyrannus borealis* Swainson.

CHARS. GEN. — Resembling *Horizopus*, but tarsi shorter than middle toe with claw; wing exceeding tail by about one-half the length of latter; rectal bristles less developed (actually as well as comparatively shorter than in *Horizopus virens*); first primary longer than the fourth.

*Geographic Distribution.* — North America; south in winter through Central America and northwestern South America as far as Peru.

*Nuttallornis borealis* (Swainson).

*Tyrannus borealis* SWAINSON, Fauna Bor.-Am. II, 1831, 141, pl. 35.

*Muscicapa inornata* NUTTALL, Man. N. Am. Birds, I, 1832, 282.

*Muscicapa cooperi* NUTTALL, Man. N. Am. Birds, I, 1832, 282.

*Contopus mesoleucus* SCLATER, Proc. Zool. Soc. 1859, 43.

*Geog. Dist.* — The same as that of the genus.

*Horizopus*,<sup>1</sup> nom. nov.

*Syricta* BONAPARTE, Ann. Sci. Nat. sér. 4, Zool. I, 1854, 133 (nec *Syrictus* Boisduval).

*Contopus* CABANIS, Journ. f. Orn. 1855, 479 (nec *Contopus* de Marseul).

Type, *Muscicapa virens* Linnaeus.

CHARS. GEN. — Similar to *Empidonax*, but tarsi much shorter, wings longer and much more pointed.

*Geographic Distribution.* — North America, except the most northerly portions; Mexico; Central America; northern and western South America as far south as the Province of Tucuman, Argentine Republic.

*Horizopus pertinax* (Cabanis).

*Contopus pertinax* CABANIS, Mus. Hein. II, 1859, 72.

*Geog. Dist.* — Guatemala and southern Mexico.

*Horizopus pertinax pallidiventris* (Chapman).

*Contopus pertinax pallidiventris* CHAPMAN, Auk, XIV, 1897, 311.

*Geog. Dist.* — Mountainous areas of northern Mexico, central and southern Arizona.

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<sup>1</sup> ὁρίων, limito; πονός, pes.

Readily distinguishable from true *H. pertinax* by its paler coloration.

***Horizopus ochraceus* (Sclater & Salvin).**

*Contopus ochraceus* SCLATER & SALVIN, Proc. Zool. Soc. 1869, 419.  
*Geog. Dist.* — Costa Rica.

***Horizopus lugubris* (Lawrence).**

*Contopus lugubris* LAWRENCE, Ann. Lyc. N. Y. VIII, 1865, 134.  
*Geog. Dist.* — Veragua and Costa Rica.

Apparently a distinct species, though near *H. pertinax*. It has the wings relatively rather shorter than its congeners, barring one exception; but in other respects is quite typical.

***Horizopus brachyrhynchus* (Cabanis).**

*Contopus brachyrhynchus* CABANIS, Journ. f. Orn. 1883, 214.  
*Geog. Dist.* — Province of Tucuman, northwestern Argentina.

The most southern member of the genus.

***Horizopus ardosiacus* (Lafresnaye).**

*Tyrannula ardosiaca* LAFRESNAYE, Rev. Zool. 1844, 80.  
*Contopus ardosiacus* CABANIS, Journ. f. Orn. 1855, 479.  
*Geog. Dist.* — Bolivia, Peru, Ecuador, Colombia, Venezuela, and Guiana.

Agrees with *lugubris*, in having the wings relatively shorter than in the other species.<sup>1</sup>

***Horizopus virens* (Linnaeus).**

*Muscicapa virens* LINNÆUS, Syst. Nat. ed. 12, I, 1766, 327.  
*Muscicapa querula* VIEILLOT, Ois. Am. Sept., I, 1807, 68, pl. 39 (nec Wilson).  
*Muscicapa rapax* WILSON, Am. Orn. II, 1810, 81, pl. xiii, fig. 5.  
*Contopus albicollis* LAWRENCE, Ann. N. Y. Acad. Sci. III, 1885, 156.  
*Geog. Dist.* — Eastern North America, north to southern Canada and Newfoundland, west to the Plains; south in winter through eastern Mexico, Central America and Colombia to Ecuador.

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<sup>1</sup>*Contopus plebeius* Cabanis, Mus. Hein. II, 1859, 71, possibly belongs in this vicinity, but it has not been possible satisfactorily to indentify the species.



The type of *Contopus albicollis* Lawrence, which has been examined in the present connection, although paler than normal *virens*, particularly about the head and throat, still presents in neither size, color nor proportions any characters which can not be quite closely matched in specimens of this species.

*Horizopus vicinus* (Ridgway).

*Contopus vicinus* RIDGWAY, Proc. U. S. Nat. Mus. X, 1887, 576.  
*Geog. Dist.* — Swan Island, Caribbean Sea.

In color closely resembling *Horizopus virens*, but without much doubt a good species. The shape of its bill inclines toward that of *Blacicus caribæus*; but in other characters it is a typical *Horizopus*.

*Horizopus richardsonii* (Swainson).

*Tyrannula richardsonii* SWAINSON, Fauna Bor.-Amer. II, 1831, 146, pl. 46, lower fig.

*Tyrannula phæbe* BONAPARTE, Comp. List, 1838, 24 (nec *Muscicapa phæbe* LATH.).

*Tyrannula bogotensis* BONAPARTE, Consp. Av. I, 1850, 190.

*Contopus sordidulus* SCLATER, Proc. Zool. Soc. 1859, 43.

*Contopus veliei* COUES, Proc. Acad. Nat. Sci. Phila. 1866, 61 (in text).

*Geog. Dist.* — Western North America, east to the Plains, north to British Columbia and the interior of British America, south through Mexico, Central America and Colombia to Ecuador.

Material at hand seems to indicate that *Contopus sordidulus* Sclater is not entitled to even subspecific recognition, the original description having been probably based on exceptionally small, possibly immature, specimens of true *richardsonii*.

*Horizopus richardsonii peninsulæ* (Brewster).

*Contopus richardsonii peninsulæ* BREWSTER, Auk VIII, 1891, 144.  
*Geog. Dist.* — Southern Lower California.

The large bill seems to be the principal character of this race, but not an entirely constant one. The shape of the bill in some specimens resembles that of *H. vicinus*.

***Blaticus Cabanis.***

*Blaticus* CABANIS, Journ. f. Orn. 1855, 480.

*Myiochanes* CABANIS, Mus. Hein. II, 1859, 71.

Type, *Muscipeta caribæa* d'Orbigny.

CHARS. GEN. — Similar to *Horizopus*, but wing much shorter; bill usually broader and its outline less acute; rictal bristles longer and more numerous.

*Geographic Distribution.* — Southern Mexico; Central America, and South America down to Peru and southern Brazil.

***Blaticus latirostris* (Verreaux).**

*Myiobius latirostris* VERREAUX, N. Arch. d. Mus. II, Bull. 1866, p. 22, t. 3, fig. 2.

*Blaticus latirostris* SCLATER, Cat. Birds Brit. Mus. XIV, 1888, 244.

*Geog. Dist.* — St. Lucia, West Indies.

This species differs from most of the other West Indian forms of the genus in the shorter, broader bill, as well as longer rictal bristles, these reaching very nearly, if not quite to the end of the beak.

***Blaticus brunneicapillus* Lawrence.**

*Blaticus brunneicapillus* LAWRENCE, Ann. N. Y. Acad. Sci. I, 1879, 161.

*Geog. Dist.* — Dominica and Guadeloupe, West Indies.

Similar to *latirostris* in shape of bill and development of rictal bristles.

***Blaticus martinicensis* Cory.**

*Blaticus martinicensis* CORY, Auk, IV, 1887, 96.

*Geog. Dist.* — Martinique, West Indies.

Not examined; but stated by Mr. Cory to be allied to *B. brunneicapillus*, differing from that species in its darker pileum, darker cervix, and paler under surface.

***Blaticus caribæus* (d'Orbigny).**

*Muscipeta caribæa* D'ORBIGNY, in La Sagra's Cuba, Aves, 1839, 92.

*Blaticus caribæus* CABANIS, Journ. f. Orn. 1855, 480.

*Geog. Dist.* — Cuba.

*Blaticus hispaniolensis* (Bryant).

*Tyrannula caribæa* var. *hispaniolensis* BRYANT, Proc. Bost. Soc. Nat. Hist. XI, 1866, 91.

*Contopus frazari* CORY, Bull. Nutt. Orn. Club, VIII, 1883, 94.

*Sayornis dominicensis* CORY, Bull. Nutt. Orn. Club, VIII, 1883, 95.

*Blaticus hispaniolensis* SCLATER, Cat. Birds Brit. Mus. XIV, 1888, 242.

*Geog. Dist.* — St. Domingo, West Indies.

*Blaticus pallidus* (Gosse).

*Myiobius pallidus* GOSSE, Birds Jamaica, 1847, 166.

*Rhyncocyclus cerviniventris* SALVADORI, Atti. Soc. Ital. VII, 1864, 153.

*Blaticus pallidus* SCLATER, Proc. Zool. Soc. 1861, 77.

*Geog. Dist.* — Jamaica.

*Blaticus blancoi* Cabanis.

*Blaticus blancoi* CABANIS, Journ. f. Orn. 1875, 224.

*Geog. Dist.* — Puerto Rico.

This species is usually credited to Gundlach, Journ. f. Orn. 1794, p. 311, but here no description is given, so the authority for the name is apparently Cabanis, as above quoted.

*Blaticus bahamensis* (Bryant).

*Empidonax bahamensis* BRYANT, Proc. Bost. Soc. Nat. Hist. VII, 1859, 109.

*Blaticus bahamensis* SCLATER, Cat. Birds Brit. Mus. XIV, 1888, 242.

*Geog. Dist.* — Bahama Islands.

Somewhat aberrant generically in possessing a relatively shorter wing than *B. caribæus*.

*Blaticus flaviventris* Lawrence.

*Blaticus flaviventris* LAWRENCE, Proc. U. S. Nat. Mus. IX, 1886, 617.

*Geog. Dist.* — Grenada, West Indies.

The type of this species, taken by Mr. Wells, appears to be the only specimen known. It seems to be distinct, differing from *brunneiceps* in its yellow abdomen and entirely yellow mandible.

*Blacicus punensis* (Lawrence).

*Contopus punensis* LAWRENCE, Ann. Lyc. N. Y. IX, 1869, 237.

*Geog. Dist.* — Puna Island, Ecuador.

Undoubtedly a good species, though sometimes synonymized with *brachytarsus*.

*Blacicus brachytarsus* (Sclater).

*Empidonax brachytarsus* SCLATER, Ibis, 1859, 441.

*Contopus schottii* LAWRENCE, Ann. Lyc. N. Y. IX, 1869, 202.

*Geog. Dist.* — Southeastern Mexico, from central Vera Cruz to Yucatan and Cozumel Island.

At least three species have, by some authors, been united under *B. brachytarsus*, one of which (*B. punensis*) has already been considered. Birds from the type locality of *brachytarsus* seem to be identical with those from Yucatan and Cozumel Island, as already shown by Mr. Ridgway,<sup>1</sup> so that *Contopus schottii* of Lawrence becomes a synonym.

*Blacicus andinus* (Taczanowski).

*Empidonax andinus* TACZANOWSKI, Proc. Zool. Soc. 1874, 539.

*Contopus depressirostris* RIDGWAY, Proc. U. S. Nat. Mus. VI, 1883, 403.

*Geog. Dist.* — Southern Mexico (Pacific side), Central America, and South America east to Trinidad, south to Peru.

This bird seems to be undoubtedly distinct from true *brachytarsus*, with which it has usually been confounded. It is in color much less dingy throughout, particularly below, where also it is frequently less deeply yellowish; and has, moreover, a shorter tail. Specimens from northern South America appear to have longer rectal bristles, and, in some details of coloration, to differ somewhat from Central American birds; but as the material at hand is not sufficient definitely to prove them separable, no distinction is here made. The name *andinus*, based on specimens from Peru, thus becomes the proper one for the species. Should it ever be

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<sup>1</sup> Man. N. Am. Birds, 1887, 339.

desirable to distinguish by name the Central American form it should be called either *Blacicus depressirostris* or *Blacicus andinus depressirostris*.

Like *B. brachytarsus* the present species is hardly a typical *Blacicus*, having less conspicuous rictal bristles and rather longer wings than *B. caribaeus*; but although both have heretofore been placed in *Contopus* they undoubtedly belong in *Blacicus*.

***Blacicus pileatus* (Ridgway).**

*Contopus pileatus* RIDGWAY, Proc. U. S. Nat. Mus. VIII, 1885, 21.  
*Geog. Dist.* — Unknown.

The type, in the collection of the American Museum of Natural History, still remains the sole representative of this very interesting species. It seems to be quite distinct.

***Blacicus cinereus* (Spix).**

*Platyrhynchus cinereus* SPIX, Av. Bras. II, 1825, 11, pl. 13, fig. 2.  
*Tyrannula curtipes* SWAINSON, Orn. Draw. 1834-41, pl. 54.  
*Geog. Dist.* — Southeastern Brazil.

***Blacicus nigrescens* (Sclater & Salvin).**

*Myiochanes nigrescens* SCLATER & SALVIN, Proc. Zool. Soc. 1880, 157.  
*Geog. Dist.* — Ecuador.

To the authorities of the American Museum of Natural History and of the National Museum the writer wishes to express his indebtedness for the use of the material employed in the preparation of this paper. He is further under great obligations to Mr. Ridgway for many valuable suggestions.

REPUBLICATION OF DESCRIPTIONS OF NEW  
SPECIES AND SUBSPECIES OF NORTH  
AMERICAN BIRDS.

BY J. A. ALLEN.

REQUESTS have been received from various members of the A. O. U., who have not full access to the current literature of ornithology, for the republication in 'The Auk' of the descriptions of all new species and subspecies of North American birds described in other publications than this journal. In response to such requests the Council of the A. O. U. has authorized such republication, of which the first instalment here follows, beginning with those included in the 'Ninth Supplement' to the Check-List (see Auk, XVI, Jan., 1899, pp. 97-133), and including those since published to date.

In this republication the original diagnoses or descriptions are given in full, and such additional remarks as are essential to a proper presentation of the case, in the exact words of the author, unless otherwise indicated by the omission of marks of quotation. Later instalments of similar scope and character will be given at the close of each year.

*Phaëton americanus* Grant.

YELLOW-BILLED TROPIC BIRD.

*Phaëton americanus* GRANT, Bull. Brit. Orn. Club, No. XLIX, Dec., 1897, p. xxiv; Ibis, April, 1898, 288.

"*Adult male and female.* — Similar to *P. flavirostris* Brandt, but differing constantly in the following points:—the black on the outer web of the first primary extending to within half an inch of the extremity, on the second and fourth quills reaching almost to the tip, while the third had the outer web entirely black. Bill entirely yellow, except above the nasal opening.

"*Range.* — East and southeast coasts of North America, from Bermuda to the West Indies."

*Rallus crepitans waynei* BREWSTER.

WAYNE'S CLAPPER RAIL.

*Rallus crepitans waynei* BREWSTER, N. Engl. Zool. Club, I, 50, June 9, 1899.

"*Subspecific characters.*—Similar to *R. crepitans*, but the general coloring much darker, the under parts with more ashy, the under tail coverts with fewer markings.

"Type, ♂ adult, no. 4220, collection of W. Brewster, St. Mary's, Camden County, Georgia, March 18, 1878, W. Brewster.

"Crown, nape, wings and tail, plain and rather pale seal brown; wing coverts, tertials, scapulars, upper tail coverts and feathers of the back and rump, rich seal brown, narrowly bordered with ashy; throat, abdomen and a short stripe running from the base of the upper mandible to above the eye, brownish white, the middle of the throat almost clear white; under tail coverts white with traces of dusky bars on a few of the feathers; flanks and crissum ashy brown with transverse bars of white. Remainder of under parts, with sides of head and neck, ashy, tinged with pale cinnamon on the breast. Axillars brown with narrow transverse bars of white.

"Wing, 5.40; tarsus, 2.15; arc of culmen from feathers, 2.48 [in.].

"From *Rallus crepitans*, the form just described may be most readily distinguished by the sharper contrast between the light and dark colors of the back, the centers of the dorsal feathers being rich brown and their edges bright ashy, whereas in *crepitans* the brown is pale and somewhat olivaceous, and the ashy comparatively dull. Most of my specimens also have much more ashy beneath than is found in any of the examples of *crepitans* which I have seen, but this difference is not constant. In the tendency to an excess of ashy on the under parts, and to a scarcity or almost total absence of dark markings on the under tail coverts, *waynei* agrees closely with *scottii*. It is so evidently a connecting link between the latter and *crepitans* that it may well be doubted whether *scottii* should continue to stand as a full species."

*Type locality*, St. Mary's, Camden County, Georgia.

*Range*, South Atlantic coast, from Virginia southward.

*Rallus levipes* BANGS.

*Rallus levipes* BANGS, Proc. N. Eng. Zool. Club, I, 45, June 5, 1899.

"*Characters.*—Much smaller than either *R. obsoletus* or *R. beldingi*; bill much more slender; tarsus and foot smaller than in either. In color it differs from *R. obsoletus* in being much darker above—more olive and less grayish, brown; in having breast and sides of neck deep cinnamon-rufous instead of grayish cinnamon, this color extending

well up on sides of neck and meeting the color of upper parts sharply; ground color of flanks, etc., darker—less grayish; a gray patch behind eye; superciliary streak *white* instead of *rusty*. From *R. beldingi* it differs, in color, in having the back feathers much less decidedly streaked; breast, etc., less pinkish or salmon-colored; flanks, etc., browner—without dusky bars bordering the white ones, the white bars wider; superciliary *white* instead of *rusty*.

"*Color*.—Above, olive brown, broadly striped with blackish brown; breast, etc., deep cinnamon-rufous, extending over sides of neck and meeting color of upper parts sharply; flanks, etc., olive, broadly banded with white; centre of belly and throat whitish; superciliary streak white; a gray patch on side of head behind eye.

"*Measurements*.—Type, ♀ adult: wing, 152; tail, 58.2; tarsus, 49; culmen, 58 mm. Topotype, ♀ ad., No. 47,847, Coll. of Wm. Brewster: wing, 141; tail, 56.6; tarsus, 45; culmen, 54.2 mm."

Type locality, Newport Landing, Los Angeles Co., California.

#### *Canachites canadensis labradorius* Bangs.

##### LABRADOR SPRUCE GROUSE.

*Canachites canadensis labradorius* BANGS, Proc. N. Engl. Zool. Club, I, 1899, 47, June 5, 1899.

"*Subspecific characters*.—Size of true *C. canadensis* or a little larger; adult male, summer plumage, similar to true *C. canadensis*, except that the white markings on under parts and on border of throat are rather heavier, and gray markings of back and rump more pronounced and purer gray—less reddish olive gray; adult female, summer plumage, quite different in color from true *C. canadensis*, upper parts much more purely black and gray, with much less buffy or ochraceous; under parts much whiter, with less buffy or ochraceous."

Type locality, Rigoulette, Hamilton Inlet, Labrador.

#### *Haliaeetus leucocephalus alascanus* C. H. Townsend.

##### NORTHERN BALD EAGLE.

*Haliaeetus leucocephalus alascanus* C. H. TOWNSEND, Proc. Biol. Soc. Washington, XI, 145, June 9, 1897.

"*Subspecific characters*.—Differing from *H. leucocephalus* in size, being considerably larger.

"*Habitat*.—Alaska.

"*Type*.—♂ (U. S. Nat. Mus. No. 151567). Unalaska, Aleutian Islands.

"*Dimensions of Type*.—Wing, 23.75; tail, 11.50; tarsus, 4; culmen, 2.60; depth of bill, 1.50; hind claw, 1.50 [inches].



"In forty specimens examined from localities between Florida and Alaska there is a regular increase in size northward. Eagles from northern States are larger than those from Florida and Louisiana. In addition to the other differences in size, the bill of the Alaskan bird is wider, while the edging to the feathers, especially on the wing coverts, is both lighter and broader. The egg of the northern bird is distinctly larger, the average of sixteen specimens being  $73.5 \times 57.5$  mm., while that of forty-five Florida specimens is  $69 \times 53.5$  mm."

On the ranges of the northern and southern forms of the Bald Eagle see Auk, XVI, p. 109, and on the inadmissibility of *H. leucocephalus washingtoni*, see *ibid.*, p. 131.

*Bubo virginianus pallescens* Stone.

WESTERN HORNED OWL.

*Bubo virginianus pallescens* STONE, Am. Nat. XXXI, March, 1897, 237.

"... I would propose for the Horned Owl of the Interior United States (the *subarcticus* of authors, *nec* Hoy) the name *pallescens*, designating as the type No. 152219, Coll. U. S. Nat. Mus., ♂, Watson Ranch, 18 mi. S. W. of San Antonio, Texas.

"*Bubo virginianus pallescens* is smaller and paler than true *virginianus* (the wing measuring 13.75 in.) with much less rufous admixture. The barring on the belly is much finer and the feet almost pure white.

"While not differing so much in size from *B. v. pacificus* as indicated in my former paper (Auk, 1896, p. 156), its coloration is quite distinct. The latter race is darker than *pallescens* with more black admixture above, heavier bars on the belly and with the feet more mottled with rufous and brown."

*Syrnium nebulosum helveolum* Bangs.

TEXAS BARRED OWL.

*Syrnium nebulosum helveolum* BANGS, Proc. N. Engl. Zool. Club, I, 31, March 31, 1899.

"*Subspecific characters.* — Size of true *S. nebulosum*; toes naked as in *S. n. alleni*; colors very pallid throughout; ground color of back, wings and tail, pale yellowish brown or cinnamon, lightest on wings and tail and shading on head toward sepia; all the light bars and spots on primaries, tertials and scapulars, large and conspicuous and white; the light bars on tail wider and paler than in true *S. nebulosum*; colors below all paler; dark striping and barring more cinnamonaceous, less dusky, and ground color paler, more whitish; feathers of tibia and tarsus, buff to whitish, showing very little, or none whatever, of the dusky markings present in both *S. nebulosum* and *S. n. alleni*.

"Size.—Type, ♀ adult: wing, 331; tail, 211 mm. Topotype, ♂ adult: wing, 347; tail, 214 mm."

Type locality, Corpus Christi, Texas.

*Sturnella magna hoopesi* Stone.

RIO GRANDE MEADOWLARK.

*Sturnella magna hoopesi* STONE, Proc. Acad. Nat. Sci. Phila. 1897, 149.

"A careful comparison of a large series of specimens shows that the Meadowlark of the Rio Grande Valley is as light or lighter than the lightest *neglecta*, averaging very similar to this form in the coloration of the upper surface but agreeing with *magna* in the distribution of the yellow below. The birds from Mexico on the other hand represent the darkest coloration exhibited by [the genus] *Sturnella*. To unite these two extremes and also the isolated Florida bird under one name seems to me eminently misleading and quite at variance with our treatment of geographical races in other species.

"I therefore propose to separate as a distinct subspecies the Rio Grande Meadow Lark and to place the Florida bird for the present at least along with true *magna*, for reasons that will be stated below. The Rio Grande Meadowlark may be separated as follows:

"*Sturnella magna hoopesi* subsp. nov.

"Type No. 786, Coll. Josiah Hoopes, Brownsville, Texas, ♂, March 13, 1892, F. B. Armstrong.

"Color below as in *magna*, but rather lighter and less buff on the sides and under tail coverts; upper surface much grayer and generally lighter. The brown tints of *magna* are very largely replaced by gray, especially on the wings. Sides of the face whiter than in *magna*; tail bars almost always distinct, *i. e.*, not confluent along the shaft of the feather.

"This bird is the lightest of all the Meadowlarks, averaging a little lighter than *neglecta*, the tail bars are also more distinct than in any of the other races."

"While this race approaches *neglecta* in its general light color, the absence of yellow from the malar region will at once distinguish it. From *mexicana* it differs more widely than from any of the other races, as we have in these two the extremes of dark and light coloration."

*Melospiza fasciata ingersolli* McGregor.

TEHAMA SONG SPARROW.

*Melospiza fasciata ingersolli* MCGREGOR, Bull. Cooper Orn. Club, I, No. 2, March-April, 1899, 35.

"*Subsp. char.* — Most closely related to *guttata* but darker and without rusty wash; spotting of lower parts tending more to streaks than to spots as in *guttata*; wing slightly longer. Entire upper parts, sides of head and flanks are darker and less grayish than in *heermanni*."

"*Type*, No. 2222, ♂ adult, Coll. R. C. McG., Battle Creek, California, Oct. 19, 1898. Wing, 2.82; tail, 2.74; tarsus, .88; exposed culmen, .44 [in.]."

"*Geog. Dist.* — Northern Sacramento Valley, south in winter to San Francisco Bay."

This form is intermediate between *Melospiza fasciata guttata* and *M. f. heermanni*.

*Pipilo fuscus carolæ* McGregor.

NORTHERN BROWN TOWHEE.

*Pipilo fuscus carolæ* MCGREGOR, Bull. Cooper Orn. Club, I, No. 1, Jan.-Feb. 1899, 11.

"Closely related to *P. f. crissalis* but distinguished by grayer and more uniform color of upper parts, much paler throat patch and slightly longer tail.

"*Type*, ad. male (No. 2200, Coll. R. C. McG.; Battle Creek, California, Nov. 7, 1898). Wing, 4.01; tail, 4.49; tarsus, 1.08; exposed culmen, .62 [in.]."

"Battle Creek the type locality, forms the boundary line between Tehama and Shasta Counties."

*Dendroica coronata hooveri* McGregor.

HOOVER'S WARBLER.

*Dendroica coronata hooveri* MCGREGOR, Bull. Cooper Orn. Club, I, No. 2, March-April, 1899, 32.

"*Subsp. char.* — In colors and markings like *Dendroica coronata*, but with wing and tail much longer.

"*Type*, No. 1988, ♂ adult, Coll. T. J. Hoover, Palo Alto, California, April 16, 1898. In summer plumage. Above bluish slate, streaked with black; top of head more finely streaked; crown, rump and sides with patches of lemon yellow; superciliary stripe, eyelids, throat, belly, spots behind nostrils, two bars on wings and spot on inner web of three outer tail feathers, white; cheeks and lores, black; feathers of breast black-centered. Wing, 3.00; tail, 2.31; exposed culmen, .38 [in.]."

"*Geog. Dist.* — Western United States, breeding probably in British Columbia and Alaska."

Average of 7 males of *D. c. hooveri*: wing, 3.02; tail, 2.30; exposed culmen, .36 in.

Average of 8 males of *D. coronata*: wing, 2.87; tail, 2.16; exposed culmen, .35 in.

Average of 10 females of *D. c. hooveri*: wing, 2.87; tail, 2.22; exposed culmen, .36 in.

Average of 10 females of *D. coronata*: wing, 2.70; tail, 2.10; exposed culmen, .35 in.

*Thryomanes bewickii cryptus* Oberholser.<sup>1</sup>

"*Thryothorus bewickii leucogaster* BAIRD, Rev. Amer. Birds, 1864, I, p. 127 (nec *Troglodytes leucogastra* Gould, quae *Hemiura leucogastra*).

*Thryothorus bewickii bairdi* A. O. U. Check-List, 1886, p. 328 (in part).

"*Chars. subsp.* — *Thryomanes* T. b. *bewickii* similis, sed major, notaeo dilutior et canescentiore.

"*Measurements* (18 specimens). — Wing, 53 to 61 (average 56.8) mm.; tail, 52 to 61 (average, 56.3) mm.; exposed culmen, 13.5 to 15.5 (average, 14.1) mm.; bill from nostril, 10 to 11 (average, 10.4) mm.; tarsus, 17.5 to 19.5 (average, 18.3) mm.; middle toe with claw, 15 to 17 (average, 16.2) mm.

"*Type locality.* — San Antonio, Texas.

"*Geographic distribution.* — Texas, except the extreme western corner, States of Nuevo Leon and Tamaulipas, in Mexico, with probably Kansas, Indian Territory, and Oklahoma. Migratory north of Texas.

"*Type.* — Male, adult; No. 112838, U. S. N. M.; San Antonio, Texas, January 5, 1887; C. W. Beckham.

"*Description.* — Upper surface rich, warm broccoli brown, darker and more rufous on rump, the feathers of which have more or less concealed white spots; superior tail-coverts hair brown, obscurely barred with blackish. Wings fuscous; innermost secondaries and outer webs of the others marked transversely with the color of the back; primaries margined basally on external webs with buffy; wing-coverts like the back, the greater series with obsolete fuscous bars. Middle tail-feathers, and at least basal portion of exterior webs of all but outer pair, hair brown, barred regularly, though not sharply, with blackish; remainder of tail black, with very faintly indicated paler bars, continuous with those on outer webs; two external pairs of feathers broadly tipped with grayish white, the outermost deeply indented with white on outer webs; remainder of rectrices tipped with hair brown. Superciliary white; lores and cheeks grayish white, mingled with brownish; postocular streak like the crown; sides of the neck brownish gray; lower surface grayish white, scarcely tinged with brownish on flanks; crissum slightly washed with ochraceous, and barred with black; axillars and under-coverts wing grayish white."

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<sup>1</sup> Proc. U. S. Nat. Mus., XXI, No. 1153, Nov. 19, 1898, 425.

"This form of Bewick's Wren is the one to which Baird's name *leucogaster* is applicable, as the range, 'southern borders of United States into Mexico,' given by him, taken in connection with the specimens he enumerates, clearly indicates. But it now seems quite certain that by perhaps an interchange at labels Baird was in error when he identified the Texas *Thryomanes* with Gould's *Troglodytes leucogastra*.<sup>1</sup> There seems to be no reasonable doubt of the authenticity of the specimen which Dr. Sharpe catalogues as the type of *Troglodytes leucogastra*, Gould,<sup>2</sup> for it came from the collection of the Zoological Society, where Gould's type was supposed to have been; it was collected in Tamaulipas, Mexico, the type locality of *Troglodytes* (= *Hemiura*) *leucogastra*, whence, until recently, no other specimen (of *Hemiura*) has been recorded; and, finally, it is undoubtedly a *Hemiura*, thus agreeing perfectly with Gould's original description of *Troglodytes leucogastra*, while in that description the expression "*crissoque pallidi-brunneis*" could not possibly apply to any form of Bewick's Wren. Baird's term *leucogaster*, as used for the *Thryomanes*, thus having been based upon a misidentification, can not, according to the usual precedence in such cases, be considered entitled to recognition; for in reality he proposed no new name, but merely referred his specimens to a species already described.

"The Texan form of *Thryomanes* may be readily distinguished from *bewickii* by much paler, grayer coloration above, as well as by longer tail, wing, culmen and middle toe. In fact, the lack of intermediate specimens strongly suggests the possibility of specific distinctness; but the material at hand is not sufficient satisfactorily to determine this point."

*Thryomanes bewickii eremophilus* Oberholser.<sup>3</sup>

"*Thryothorus bewickii bairdi* A. O. U. Check-List, 1886, p. 328 (in part).

"*Chars. subsp.* — *Thryomanes* T. b. crypto affinis; sed partibus superioribus magis griseis distinguendus.

"*Measurements* (18 specimens). — Wing, 51 to 60 (average, 56.1) mm.; tail, 50.5 to 63.5 (average, 56.8) mm.; exposed culmen, 13 to 15 (average, 13.8) mm.; bill from nostril, 9 to 11 (average, 10) mm.; tarsus, 15 to 18.5 (average, 18) mm.; middle toe with claw, 13.5 to 17 (average, 15.5) mm.

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<sup>1</sup> Sclater and Salvin, *Nomenclator Avium Neotrop.*, 1873, p. 155; Salvin and Godman, *Biol. Centr.-Amer.*, Aves, 1880, I, p. 95; Faxon, *Auk*, 1898, XV, p. 60."

<sup>2</sup> *Cat. Birds Brit. Mus.*, 1881, VI, p. 285."

<sup>3</sup> *Proc. U. S. Nat. Mus.*, XXI, No. 1153, Nov. 19, 1898, 427.

"*Type locality.*—Big Hatchet Mountains, Grant County, New Mexico.

"*Geographic distribution.*—Extreme western Texas (in winter to central part), Arizona, New Mexico, and southeastern California, south over the table-lands of western Mexico to central Zacatecas; north to Colorado, southern Utah, southern Nevada, and possibly southeastern Oregon. Resident south of Colorado.

"*Type.*—Male, adult; No. 126774, U. S. N. M.; Big Hatchet Mountains, Grant County, New Mexico, May 19, 1892; Mearns and Holzner.

"*Description.*—Above uniform pale grayish sepia, slightly rufescent on the rump, the feathers of which have more or less concealed white spots; upper tail-coverts hair brown, faintly barred with darker. Wing-quills fuscous, indented externally with the color of the upper surface. wing-coverts like the back. Middle tail-feathers, and basal portion of exterior webs of the rest, with the exception of the outermost pair, hair brown, regularly barred with black; three outer pairs with broad grayish tips, and white indentations on exterior webs, these latter most numerous on the outer pair; other rectrices tipped with hair brown; remainder of tail black. Superciliary stripe white; lores and cheeks grayish white, somewhat mixed with brown; postocular streak like the crown; sides of neck brownish gray; lower surface dull white, nearly clear white on chin and throat, washed with gray on sides and flanks; crissum heavily barred with black; lining of wing grayish white."

"The difference existing between *eremophilus* and *cryptus* consists in the rather paler, much more grayish tint of the upper parts, and no difficulty will be experienced in identifying the great majority of specimens. Some intermediates, however, are to be distinguished only by the slightly paler or more grayish color of the wings. This subspecies is more closely allied to *bairdi* than to any of the other Mexican forms, although the ranges of *bairdi* and *eremophilus* are separated by the interposition of a race larger and darker than either.

"As in *cryptus*, there exists a considerable amount of individual difference, even at the same season, this consisting principally in the darker or more rufescent color of the upper surface. Two breeding specimens from Paisano, Texas, are perfectly typical of the present race, though rather darker than most Arizona examples. Specimens from San Diego, Chihuahua, Mexico, White Mountains, and the region of Death Valley, California, are identical with those from Arizona and New Mexico. A winter bird from the Valparaíso Mountains, Zacatecas, Mexico, differs only in being slightly darker."

*Thryomanes bewickii charienturus* Oberholser.<sup>1</sup>

"*Thryothorus bewickii spilurus* A. O. U. Check-List, 1886, p. 327 (in part).

<sup>1</sup>Proc. U. S. Nat. Mus. XXI, No. 1153, Nov. 19, 1898, 435.

"*Chars. subsp.* — *Thryomanes* T. b. *eremophilus* similis, a quo differt partibus superioribus et hypochondriis obscurioribus, striga superciliarum paululum latiore, alis caudaque multo brevioribus.

"*Measurements (23 specimens).* — Wing, 48.5 to 55 (average, 51.7) mm.; tail, 47.5 to 54.5 (average, 51.5) mm.; exposed culmen, 12.5 to 14.5 (average, 13.8) mm.; bill from nostril, 9 to 11.5 (average, 10.2) mm.; tarsus, 18 to 19.5 (average, 18.8) mm.; middle toe with claw, 14 to 16 (average, 15.4) mm.

"*Type locality.* — Nashoguero Valley, Lower California (Mexican and United States boundary line).

"*Geographic distribution.* — Coast region of southern California, north to about Pasadena, south to latitude 28°, Lower California; Santa Catalina Island, California. Resident throughout its range.

"*Type.* — Male, adult; No. 134163, U. S. N. M.; Nashoguero Valley, Lower California, June 5, 1894; Dr. Edgar A. Mearns.

"*Description.* — Upper parts dull grayish sepia, slightly rufescent on rump, the feathers of this part with more or less hidden roundish white markings; superior tail-coverts hair brown, obscurely barred with dusky. Wings fuscous, secondaries alternately barred on external webs with blackish and the color of the back; lesser and median coverts, with margins of greater series, also similar to the upper surface; primaries narrowly edged on basal portion of exterior webs with buffy. Tail black, the central rectrices hair brown, with regular bars of black; exterior feathers with terminal portion dull smoke gray, the outer webs barred with dingy white; remaining feathers barred on external webs and tipped with hair brown. Superciliary stripe white; lores and cheeks grayish white, mixed with brownish; postocular streak like the crown; sides of neck deep brownish gray; chin and throat white (soiled by wear); rest of under surface grayish white (adventitiously washed with brownish); sides and flanks tinged with smoke gray; crissum heavily barred with black; lining of wing grayish white."

"From *eremophilus* this race differs in decidedly darker flanks and upper surface, rather broader superciliary stripe, more regularly and heavily barred crissum, as well as much shorter wing and tail. From *murinus*, which it approximates very closely in color above, it differs in conspicuously shorter wing and tail, shorter culmen, darker flanks, and somewhat less heavily barred lower tail-coverts."

*Thryomanes bewickii drymæcus* Oberholser.<sup>1</sup>

"*Thryothorus bewickii spilurus* A. O. U. Check-List, 1886, p. 327 (in part).

"*Chars. subsp.* — *Thry.* b. *charienturo* affinis, sed supra valde rufescentior et paulo dilutior.

<sup>1</sup>Proc. U. S. Nat. Mus., XXI, No. 1153, Nov. 19, 1898, 437.

"*Measurements* (15 specimens).—Wing, 47 to 54.5 (average, 51.4) mm.; tail, 45 to 53 (average, 49.8) mm.; exposed culmen, 13 to 14.5 (average, 13.7) mm.; bill from nostril, 9 to 10.5 (average, 9.8) mm.; tarsus, 17.5 to 19 (average 18.4) mm.; middle toe with claw, 14.5 to 16.5 (average, 15.5) mm.

"*Type locality*.—Baird, California.

"*Geographic distribution*.—Sacramento and San Joaquin valleys, California, including west slope of Sierra Nevada, west to the coast about San Simeon; casually to Arizona. Resident in suitable localities throughout its breeding range.

"*Type*.—Male, adult; No. 91610, U. S. N. M.; Baird, California, June 6, 1883; C. H. Townsend.

"*Description*.—Above uniform dull rufescent hair brown, the rump with more or less concealed white spots, the tail-coverts slightly grayer than the back, obsoletely barred with darker brown. Wings fuscous; innermost secondaries and outer webs of remainder broadly barred with the color of the upper surface and somewhat with blackish; wing-coverts like the back; primaries edged basally with buffy. Middle rectrices hair brown, barred with black; exterior webs of succeeding pair and basal portion of exterior webs of remainder, excepting outermost pair, like the middle feathers; outer pairs tipped with dull gray, external webs of outermost pair indented terminally on exterior web with white; tips of the other feathers hair brown; rest of tail black. Superciliary stripe white; lores and cheeks white, somewhat mingled with brown; postocular streak like the crown; sides of neck pale brownish gray; lower parts grayish white, adventitiously washed with brownish, lightest on the throat, the flanks and sides tinged with smoke gray; this deepest on the former; under tail-coverts tinged slightly with ochraceous, and barred with black; lining of wing grayish white."

"*Thryomanes b. drymæcus* may be distinguished from *T. b. charienturus* by rather paler, decidedly more rufescent flanks and upper surface, together with somewhat shorter tail. Compared with *eremophilus*, it is darker, more rufescent above, with a somewhat more prominent superciliary stripe, and decidedly shorter wing and tail. The characters which separate *drymæcus* from *cryptus* consist in rather darker flanks and upper surface, rather more conspicuous superciliary stripe, somewhat more heavily and regularly barred crissum, much shorter wing and tail. It differs from *leucophrys* in much more rufescent color above, more heavily barred crissum, and much shorter culmen."

*Thryomanes bewickii calophonus* Oberholser.<sup>1</sup>

"*Thryothorus bewickii spilurus* A. O. U. Check-List, 1886, p. 327 (in part).

<sup>1</sup> Proc. U. S. Nat. Mus. XXI, No. 1153, Nov. 19, 1898, 440.



*Chars. subsp.* — Thry. b. *spiluro persimilis*, sed paulo major; rostro multo longiore; necnon hypochondriis paululum rufescentioribus.

*"Measurements (17 specimens).* — Wing, 50.5 to 54.5 (average, 53) mm.; tail, 49.5 to 54.5 (average, 51.4) mm.; exposed culmen, 13.5 to 15 (average, 14.8) mm.; bill from nostril, 10 to 11.5 (average, 10.8) mm.; tarsus, 17.5 to 20 (average, 19.3) mm.; middle toe with claw, 16 to 17.5 (average, 16.9) mm.

*"Type locality.* — South Park, King County, Washington.

*"Geographic distribution.* — Pacific slope, from Oregon north to southern Vancouver Island, the valley of the Fraser River, and slightly farther along the mainland coast. Resident probably throughout its range, at least from Puget Sound southward.

*"Type.* — Male, adult; No. 135210, U. S. N. M.; South Park, King County, Washington, December 19, 1894; L. M. Turner.

*"Description.* — Above rich dark bistre, slightly deeper on head, shading to vandyke brown on rump, the feathers of which have more or less concealed white spots; upper tail coverts sepia, inconspicuously marked transversely with darker brown. Wings fuscous, their coverts and the exterior webs of secondaries mostly like the back, the latter obscurely barred with blackish, basal half of outer primaries margined exteriorly with pale brown. Tail black, middle feathers sepia, with narrow bars of black; all the rest tipped with dull gray and more or less distinctly barred externally with sepia; outer pair with indentations of grayish white on terminal portion of exterior webs. Superciliary stripe white, lores and cheeks grayish white, the two last mentioned mixed with dark brown; postocular streak reddish sepia; sides of neck deep brownish gray; lower parts grayish white, most nearly pure white on chin, strongly tinged with brownish gray on sides, this color becoming more ferruginous and more conspicuous on flanks; lower tail-coverts heavily barred with black; lining of wing grayish white."

"Since the type of *Troglodytes spilurus* Vigors undoubtedly came from California, the present race seems to have received hitherto no distinctive title. It differs from *spilurus*, its nearest ally, in conspicuously larger bill, besides averaging greater in all its other measurements. The upper surface seems to be usually rather deeper and richer brown; the flanks somewhat more rufescent. From *bewickii*, *calophonus* is easily distinguished by deeper, more sooty brown above, much darker sides and flanks, wider superciliary stripe, decidedly longer bill, tarsus and middle toe. It may be readily separated from *drymacus* by the much darker flanks and upper surface, larger bill and feet. Compared with *mesophilus*, it differs in darker, more reddish brown upper surface, and in larger size, this most apparent in the tail and culmen. From *charienturus* this northwest coast form may be readily discriminated by darker, much more reddish brown flanks and upper surface, longer middle toe and culmen."

*Thryomanes bewickii nesophilus* Oberholser.<sup>1</sup>

"*Thryothorus bewickii spilurus* A. O. U. Check-List, 1886, p. 327 (in part).

*Chars. subsp.*—*Thryomanes* T. b. *charienturo* affinis, a quo differt notaeo, lateribus hypochondriisque obscurioribus ac rufescentioribus.

"*Measurements (6 specimens).*—Wing, 49 to 53 (average, 51.4) mm.; tail, 47 to 51 (average, 48.8) mm.; exposed culmen, 13.5 to 14.5 (average, 14.1) mm.; bill from nostril, 10 to 11 (average 10.2) mm.; tarsus, 18.5 to 19.5 (average, 18.8) mm.; middle toe with claw, 15 to 16 (average, 15.7) mm.

"*Type locality.*—Santa Cruz Island, California.

"*Geographic distribution.*—Santa Rosa and Santa Cruz Islands, California.

"*Type.*—Male, adult; No. 117641, U. S. N. M., Santa Cruz Island, California, February 7, 1889; C. H. Townsend.

"*Description.*—Above grayish bistre, rather darker on head, somewhat more rufous on rump, the feathers there with more or less concealed white spots; upper tail-coverts hair brown, obscurely barred with blackish. Wings fuscous, the secondaries marked on external webs, the innermost ones on both, with alternate bars of brownish olive and blackish; primaries indented basally on outer webs with buffy; lesser and middle coverts like the back; greater series barred on exterior webs and tipped with this same color. Central rectrices and exterior webs of all but outer pair like the back in color, but regularly barred with black; tips of the feathers hair brown, indentations on distal portion of external webs of outer pair dull white; remainder of tail black. Superciliary stripe white; lores and cheeks grayish white mixed with dull brown; postocular streak brownish olive; sides of neck brownish gray, under surface dull brownish white, most nearly pure white on chin and throat; sides washed with brownish gray, flanks strongly tinged with the same; under tail-coverts slightly washed with ochraceous and heavily barred with black; lining of wing grayish white.

"This new subspecies may be distinguished from *charienturus* by the darker, more rufescent coloration of the upper surface, sides and flanks; the tail also averages appreciably shorter. It is noticeably lighter and rather more grayish than *spilurus*, besides having a somewhat longer culmen. From *drymacus* it is without difficulty separable by the noticeably darker and rather more sooty color of the flanks and upper surface. The tail also averages slightly shorter."

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<sup>1</sup> Proc. U. S. Nat. Mus. XXI, No. 1153, Nov. 19, 1898, 442.

## GENERAL NOTES.

The Black Tern (*Hydrochelidon nigra surinamensis*) in New York Harbor. — On August 31, 1899, five Black Terns were shot at Bedloes Island, New York Harbor. The two that I skinned, both males, had been eating small fish. Others of the same species were seen subsequently in the same locality at about same date. — L. S. FOSTER, *New York City*.

Capture of the Brown Pelican in Wyoming. — I have to record the capture of *Pelecanus fuscus* upon one of the city reservoirs of Cheyenne, Wyoming, on July 12, one individual, a female, which was alone. The bird was in poor flesh and apparently had about completed moulting. Two or three of her rectrices were less than half grown and each wing showed two or three old brown primaries and two or three old brown secondaries not yet shed. Head and neck uniform slate gray. Measurements as follows: Culmen, 11.12; wing, 20.00; length, 49.00 inches. I do not know of any other captures of this species in Wyoming, or, for that matter, in any intermountain State, in this or contiguous latitudes. I am not familiar with the species, but think the uniform brown head and neck would indicate immaturity, but the few worn and much darker quills of the wings and the partly moulted tail offer conclusive evidence against the suggestion that the bird is of the present year. I have mounted the specimen and placed it in the Cheyenne High School collection. — FRANK BOND, *Cheyenne, Wyo.*

The Little Blue Heron (*Ardea carulea*) in Connecticut. — On July 21, 1899, I saw no less than seven individuals of this species, all young birds, in white plumage. On the 25th I secured one, and a few days later another; there were five shot all together. The remaining two left and were not seen again. The flock spent about two weeks here, feeding on the salt marshes. This is the first and only time that I have met with *Ardea carulea*, in Connecticut. — ARTHUR WILLIAM BROCKWAY, *Old Lyme, Conn.*

The Green Heron Breeding in Ontario. — Very little seems to be known of the breeding habits of the Green Heron (*Ardea virescens*) in Ontario, and its presence is not often noted north of the southern parts of the Province — McIlwraith makes the general statement that it breeds near Dunville, the St. Clair Flats, and at Hamilton. This summer we have located it in a spot fully eighty miles north of these places and there is reason to believe that it breeds at several points in this locality. Early in June the Rev. C. J. Young of Lansdowne, Ont., informed me

that he had located several Green Herons at Charleston Lake in the County of Leeds, and had obtained positive proof that they were breeding there. On June 14, 1899, we visited the lake together and investigated a grove of young trees which was partly submerged as a result of the blocking up of the outlet to the lake. The flooded territory was anything but an inviting field for investigation, even by enthusiastic ornithologists, as it was almost impossible to shove a punt through the tangle; to wade in slime and water three or four feet deep was not an attractive occupation, and the presence of clouds of mosquitoes made a long stay in the vicinity out of the question. We had not penetrated the tangle many yards before a deserted nest was seen; twenty yards or so further on was a second nest, and while we approached it a Green Heron flew to it, but immediately departed on seeing the intruders.

The nest was a platform of sticks, placed nine feet from the water in an ash sapling. After considerable difficulty, the eggs, five in number, were secured and proved to be somewhat advanced in incubation. The millions of mosquitoes and the impenetrable nature of the grove made further investigation impossible, although we saw several Green Herons. The probability is that other nests existed. In another locality we found two nests, one of which had recently contained eggs.

Two Herons were noticed at this place, and it is evident from what we learned that these birds are comparatively common about Charleston Lake. Not wishing to disturb the birds after having satisfactorily established the fact that these Herons breed as far north as the County of Leeds, we declined further contest with the battalions of mosquitoes, whose breeding and other habits are too well known to require further investigation. — C. K. CLARKE, M. D., *Kingston, Ont.*

**White-tailed Hawk in Arizona.** — Two years ago, while crossing the desert between Florence and Red Rock, I found a nest of the White-tailed Hawk (*Buteo albicaudatus sennetti*) upon which the bird was sitting. The nest held a single egg, far advanced in incubation. The parent was not secured. The past spring I shot here at Phoenix a fine male of this species, thus showing beyond any doubt that it occurs in Arizona as an annual breeder and not merely as an accidental straggler. — G. F. BRENINGER, *Phoenix, Arizona.*

**A Phenomenal Flight of Hawks.** — Early on the morning of August 29, 1899, while hunting Bartramian Sandpipers on the hay bottom southwest of Neligh, I was surprised to see the portion of the bottom bordering the Elkhorn River fairly covered with, what I then thought, an exceedingly large flock of Crows. But the few individuals who occasionally arose and lazily flapped their wings for a short distance had the flight of Hawks; and Hawks they proved to be, in extraordinary numbers. The majority were resting upon the ground, but each fence post had its occupant, and some were in the neighboring trees. They appeared to be

quite wearied, as if from a protracted flight, and even the noise of a gun caused but a few of the nearest to fly.

I shot two of the Hawks as they slowly flew over me, both of which belonged to the same species, *Buteo swainsoni*. And, with but one exception (an American Rough-leg), all that I observed were of this species.

I estimated the number of Hawks on this one bottom at between three and four hundred, and was informed by farmers farther up the river that large numbers of the birds were on the bottoms there at the same time. The greater number resumed their journey southward in a loose body an hour or so after sunrise, but a few remained throughout the day. The next morning none were seen.

It would be extremely interesting to know the cause of this unusual flight of Hawks. I have known for some time that *Buteo swainsoni* migrates to the south in the fall, but have never before seen them in flocks, or going southward so early in the season. There had been no cold weather here at the time of the flight; rather the opposite. Possibly in the Dakotas (their breeding grounds) there may have been some atmospheric disturbance which would account for the early exodus. There was also a very large flight of Bartramian Sandpipers on the same morning, but no other birds were present in unusual numbers. — MERRITT CARY, *Neligh, Nebraska*.

**A Musical Woodpecker.** — My attention was first called to this talented bird by the rapid vibrations of one of the four wires running into our office. Looking down the track from where the noise seemed to proceed I spied a Red-headed Woodpecker (*Melanerpes erythrocephalus*) on top of a pole not far away. Leaving the office I went down to the stock pens to watch proceedings. I did not have long to wait, for he began in a short time drumming vigorously against a protruding piece of wire. The piece of wire in question was about ten or twelve inches long with a loop in the center; it stood straight up parallel with the pole and about six inches above it, and protruded from a joint or splice in the wire, left there by some careless lineman.

The Woodpecker would drum against it for ten to fifteen seconds at a time, stopping now and then to listen to the humming of the wire, or fly out to catch a passing insect. He would stop and listen in evident enjoyment, then utter a call and proceed. He kept this up for over a month, when he disappeared and I have not seen him since. — OTTO HOLSTEIN, *Muir, Ky.*

**Note on the Name *Drymophila*.** — Mr. H. C. Oberholser has recently (Proc. Acad. Nat. Sci. Phil., June, 1899, 213) made use of Temminck's name *Drymophila* to replace *Phylentoma* Eyton, for a genus of Old World Flycatchers, on the supposition that Swainson's *Drymophila* was preoccupied by Temminck's use of the term. Swainson first published it in Oct., 1824 (Zool. Journ., I, 302), without diagnosis or indication of a

type species, and it was not properly set forth by him until July, 1825 (Zool. Journ., II, 149). Meanwhile, Temminck (Pl. Col., livr. 56, March, 1825, pl. 334) had applied it to a genus of Muscicapidæ, thus blocking its further use as a Swainsonian name. Consequently, Mr. Oberholser adopted *Drymophila* to supersede *Philentoma*, which course would have been perfectly proper, had not Mr. Geo. Such described a *Drymophila variegata* in Jan., 1825 (Zool. Journ., I, 559), which fixed the name, and invalidated its use for Temminck's genus. *Philentoma* will thus remain the proper term for the genus established by Eyton, and *Drymophila* Such (*ex* Swains.) will become valid as the name of the genus now called *Formicivora* (Swains., July, 1825, *nec Formicivorus* Temm., 1807). Prof. Newton has recently noted the untenability of *Formicivora* (Dict. Birds, 1893, 20, footnote), and suggested *Eriodora* Gloger, 1827, as apparently the correct name of the genus. It will be seen from the above, however, that the genus should stand as *Drymophila*, with the following species:

*Drymophila grisea* (Bodd.), *D. intermedia* (Cab.), *D. rufatra* (Lafr. & D'Orb.), *D. strigilata* (Max.), *D. speciosa* (Salv.), *D. ferruginea* (Licht.), *D. striata* (Spix), *D. caudata* (Scl.), *D. genei* (De Fil.), *D. malura* (Temm.), *D. squamata* (Licht.), *D. boucardi* (Scl.), *D. consobrina* (Scl.), *D. virgata* (Lawr.), *D. quixensis* (Corn.), *D. bicolor* (Pelz.). — CHAS. W. RICHMOND, Washington, D. C.

**New Song of the Baltimore Oriole.**—I wish to call the attention of the readers of 'The Auk' to a seemingly new song which a number of Baltimore Orioles (*Icterus galbula*) have acquired. The Orioles singing it are abundant in and about Prides Crossing and Beverly Farms, Mass., though similar singers elsewhere have been reported only from South Berwick, Maine.

The new song is as follows:



The three notes, D, A, D, are whistled in a robust, bold, loud quality, noticeably coarser and firmer than the quality of other Oriole songs. The notes are invariable both in tempo, tune and rhythm; except that sometimes a grace note on A precedes the first D, or sometimes the first D is omitted; this apparently when the bird is in a hurry or nervous, or the A may be a trifle sharpened. The succeeding sixteenth notes, which constitute the remarkable part of the performance, are indeterminate in pitch, and are spoken to the syllables: *chuck, chuck, chuck, chuck*, etc., perhaps five or seven times iterated.

This chuckling, so far as I can tell, invariably follows this particular tune, but none other. Other Orioles in the same locality sing other tunes with a more mellow and variable quality of whistle; but these latter birds, so far as I can be sure of their individual identity, never chuckle at any time. The chuckling birds seem also to be of a duller orange, almost the tint of a Bluebird's breast, or a 'chestnut' horse, and are possibly last year's young or two-year-olds.

This chuckling song seems well worth mention, because as it is so marked and unusual it can be readily detected. And it would be interesting to inquire how widely spread this song may have become this season, as well as whether it has ever been heard before. If the song is a mimicry or imitation of some other species, I should welcome any suggestion as to the identity of its original model. — REGINALD C. ROBBINS, *Boston, Mass.*

**Song of the White-crowned Sparrow (*Zonotrichia leucophrys*).**—A recent study of captive White-crowned Sparrows tends to show that the female sings a simple copy of the male's usually exquisite strain. Of four females that have come under my notice since the fall of 1897, three have sung in the manner described, while the exceptional one was a bungler that never wholly succeeded in getting the song just right. This bird, captured October 7, 1897, and released July 26, 1898, was in song from October 20 to December 10, 1897, and again during March, April, May and June of the following year.

Early in October, 1898, when White-crowns were perhaps a hundred strong in a nearby weedy potato field, I secured five specimens, two adults and three immatures. One of the adults, recognized as a female, was presently set free; the other, a doubtful subject, on being referred to a tame male of 1897, was immediately identified by him as one of the opposite sex. She was quiet and orderly,—uncommonly so,—hence was reserved for future study.

Of the young trio one turned out to be a female, and although very wild at first, eventually, without coaxing, became tame and confiding. In the fall of 1898 she sang but little and only on occasions when 'fighting mad.' Both females sang intermittently in March and April and daily during May, 1899.

The young males sang diligently from the middle of October to the second week of July, when moulting set in. In March the juvenile style of singing gradually gave way to the adult form. But from the commencement, when angry and defiant, these youngsters always sang in the manner of the adult bird. This strain is not limited to five or six notes, but ranges, according to my observations, from four to fourteen, not including a twittered prelude which oftentimes introduces the song proper.

At first my captives were confined in cages, but latterly have had the freedom of a room where they can fly about and bathe at pleasure. A

soap box partly filled with sweepings from the hayloft affords them plenty of leg exercise, but unfortunately is also the cause of many a selfish quarrel. In order that my birds keep in good health, I have always studied to vary their fare. Besides canary and millet seed, they receive ants' eggs, Mockingbird food, berries, meal worms, etc. If no other live food is offered, they will even accept small earthworms. In winter the little fat grubs and 'worms' found in goldenrod galls are a welcome treat. — E. D. DOWNER, *Utica, N. Y.*

*Ammodramus henslowii*. — A Correction. — In 'The Auk' for April, 1889, p. 194, I reported the occurrence at Fort Adams, Newport, R. I., of *Ammodramus henslowii*. My identification was afterwards found to be incorrect, but through oversight the record has not been changed until now. — WIRT ROBINSON.

Leconte's Sparrow (*Ammodramus leconteii*) in Kentucky. — A specimen was killed April 15, 1899, in an old weed grown clover field, about two miles east of Lexington, Ky. It was quite tame, allowing us to approach within five or six feet before attempting to escape. A second specimen was seen July 16, while feeding near the foot of an old 'rock fence' in a dirt lane, the sides of which were overgrown with catnip, wild sage, and various other weeds and young trees.

I believe the species is a rare summer resident and breeder.

This is, as far as I am aware, the first record of its occurrence in Kentucky. — OTTO HOLSTEIN, *Muir, Ky.*

Nesting of Nelson's Sparrow (*Ammodramus nelsoni*) in North Dakota. — June 14, 1899, on a broad, alkaline flat, lately a shallow arm of Devils Lake, now nearly dried up, among scant, short grass in a wet, oozy spot, I found the nest of this little known Sparrow, securing the sitting bird and mate with the eggs. An overflow of surface water from a marsh just beyond, during the spring, flows over this flat, at first through a sort of natural ditch, then gradually spreading out till it loses itself in the sticky soil. A bit of ground about three feet square, raised an inch or two from the general level, was sufficient to cause this trifling flow of inch-deep water to divide, forming a tiny island, which was not exactly dry but more nearly so than the immediate surroundings. Here, sunk in the wet earth, and lined sparingly about the sides, but very thickly in the bottom, with fine dried grasses of a wiry nature was the nest, containing five eggs raised by the thick lining well up out of the wet. As the general situation when observed by me was rather dryer than when the nest was first built it must be that the selection of a dismally wet spot was deliberate and, perhaps, indicates the regular custom.

The finding of the nest was purely accidental as, in a more or less vain effort to keep my feet dry, I sprang from point to point, finally alighting with both feet squarely astride the nest, and the sitting bird, as she flut-



tered up and away from between my feet and dropped out of sight in the ragged grass, must have been sorely surprised and startled. The situation was so odd and the eggs so peculiar in appearance that I repaired to my cart, left at some distance, for glass, gun and camera. Returning in fifteen minutes the bird was again flushed; she ran stealthily along where the ground was wet and comparatively bare of vegetation and was presently joined by her mate, twittering weakly from a neighboring weed stalk, who seemed not so averse as the female to searching inspection through the glass. Both were finally shot and carried home with eggs and nest lining.

The eggs are small, about .65 X .50, of grayish-white ground, thickly sprinkled and clouded all over with markings of brown, thickening on the extreme butt into a dark brown zone. The general effect is that of very small eggs of the Savannah Sparrow. One egg, a trifle larger than the rest, shows a bluish-white ground less thickly sprinkled and wholly lacking the clouded appearance of the others, but still exhibiting the well defined zone so symmetrical in all five eggs as to be noticeable. Incubation had progressed about one half, but was not exactly uniform, and one egg was infertile.

Not all the statements of Walter Raine find the widest acceptance, but I am inclined to credit his account of the taking of a nest of this species, as related by him on p. 88, Vol. I, of the 'Nidologist.' At least his description there given corresponds closely with my own observation. I can agree, too, with his statement that the eggs of this species "will never be common in collections." The bird is but a trifle over five inches in length, of sober coloring (except for the bright buff that shows only when in hand), and shy disposition, and if, as seems likely, its nest is habitually located in dreary marshes apart from the haunts of man, its discovery will probably continue rare and the merest accident. I believe the taking of the nest in the United States has not before been recorded.

In photographing this nest and surroundings great pains were taken, but the developed plate shows hopeless overexposure. The eggs are now in the great Norris collection.—EUGENE S. ROLFE, *Minnewaukan, N. Dak.*

Hirondelles de Guanajuato, Mexico.—Vers le 15 février de cette année (1898) sont arrivés par un temps chaud les aviones grandes (*Progne subis*). La chaleur a continué avec quelques journées de pluie, et le 7 mars ont apparu les premières golondrinas (*Chelidon erythrogaster*) ainsi que les aviones chicos (*Petrochelidon lunifrons*). Ces oiseaux passent à Guanajuato le printemps et l'été et y font leurs nids: ils s'en vont vers l'automne, et partent par ordre d'arrivée. *Progne subis* est la première à s'en aller; *Petrochelidon lunifrons* émigre vers la fin de septembre, et un peu plus tard *Chelidon erythrogaster*. J'ai vu ce dernier arriver à Vera Cruz en 1879 vers le milieu de février; un peu plus tard ils étaient à Orizaba, et quelques jours après à Mexico. J'ignore où *Progne* et *Petro-*

*chelidon* vont passer l'hiver, mais pour *Chelidon erythrogaster* il est certain qu' Azara l'a observé au Paraguay dans les mois de septembre et décembre (Azara, Apunt. para hist. de los pascaros de Paraguay, t. II, p. 507 ; Madrid, 1805).

*Progne subis* établit son nid dans la ville, ordinairement dans les trous des murs des églises, à les sites presque toujours inaccessibles. Cependant j'en ai trouvé une fois dans le mur d'une maison : c'était un simple fond de marmite en terre que l'oiseau avait utilisé en y jetant pêle-mêle et sans ordre une poignée de fragments de natte de jonc ou de palmier : ce nid doit être souvent très-négligé car on compare ici une maison sans ordre à un nid de avion. Les mâles et les femelles volent ensemble, excepté à l'époque de l'incubation qui a lieu au mois de mai.

*Petrochelidon lunifrons* place son nid sous les poutres des édifices : il a la forme d'une cornue renversée et consiste en de petits tas de boue que l'oiseau prends d'ordinaire dans les grandes galettes de minéral moulu et mêlé d'eau des usines d'argent. Avant l'incubation mâles et femelles



Exacte reproduction d'une hirondelle (*Chelidon erythrogaster*) faisant son nid sur des côtes d'une poutre. Elle apportait de la boue dans la gorge, la déorgeait par petites portions sur le bois, et l'étaït avec son bec comme avec une truelle. Dans un quart d'heure, elle fit trois voyages successifs et son ouvrage avançait d'un quart de pouce.

volent ensemble, mais plus tard je n'ai jamais tué un vol que des mâles. Au contraire de *Progne subis*, *P. lunifrons* se pose souvent à terre, surtout près de l'eau.

*Chelidon erythrogaster* fait son nid dans les mêmes endroits que *P. lunifrons*, avec les mêmes matériaux, mais il lui donne la forme d'un quart de sphère : habituellement c'est de la boue prise à la campagne qui sert pour cet ouvrage. Même à l'époque de l'incubation, on voit souvent les mâles et les femelles chasser ensemble, surtout lorsque les petits sont éclos. Ces derniers partent avec leurs parents, de sorte qu'en hiver on ne voit plus un seul hirundinidé à Guanajuato.

Je ne parle pas de *Tachycineta thalassina* qui est très rare ici, ni de

*Panyptila melanoleuca* que je n'ai pu bien observer: *Panyptila* habite les fentes de quelques rochers sur la montagne.

En 1893 une épidémie de typhus a cruellement sévi à Guanajuato, et les hirondelles ont été fort peu nombreuses; y a-t-il en une simple coïncidence ou une relation de cause à effet? Ce qu'il y a de certain c'est qu'aujourd'hui ces oiseaux viennent ici beaucoup moins qu'il y a quelques années; la cause est peut-être la suivante. Les éperviers (*Tinnunculus sparverius*) étaient communs par suite de l'abondance des oiseaux insectivores au gramivores, mais ils ont disparu ensemble depuis que les insectes et les plantes qui les nourrissaient ont diminué en nombre: ce dernier résultat est dû à l'irrégularité des pluies causée par le déboisement inconsidéré des montagnes. Les hirondelles disparaîtraient aussi certainement si ce n'était le nombre considérable de mouches qui existent en tout temps, mais principalement à l'époque des chaleurs et des pluies (d'avril à octobre), grâce surtout au ruisseau qui traverse la ville, et qui reçoit le tribut des égouts et des lieux d'aisance qui le rend souvent d'une infection insupportable. — O. DUGÈS, *Guanajuato, Mexico*.

**Very Early Record of the Cliff Swallow.** — This bird was known to the Spaniards long before Say called it *Hirundo lunifrons*, and once occasioned a geographical name. On the 19th of September, 1776, the Spanish priest, Silvestre Velez de Escalante, was in the Wahsatch range of mountains, on their east side, about to pass over them into Utah valley. He went through a cañon, "que mombramos de las Golondrinas, por haber en él muchos nidos de estas aves, formadas contal simetría, que parecen pue-blecillos," in other words, he named it Cañon of the Swallows, because there were in it many nests of these birds, built with such symmetry, that they looked like little towns. This comparison of a cluster of Cliff Swallows' nests to the Indian pueblos of New Mexico is a good one. The passage may be read in the very rare collection of papers entitled: Documentos para la Historia de Mexico, 2d series, vol. I, p. 447. — ELLIOTT COUES, *Washington, D. C.*

**Philadelphia Vireo in West Virginia.** — While hunting for Warblers on May 16, 1899, in the open woods, near Elm Grove, Ohio Co., W. Va., the writer secured a Vireo, which was at first glance supposed to be a specimen of *Vireo gilvus*, but upon subsequent examination the first primary was found wanting and the total number of the same but nine, with other characters in accordance. From this it was very evident that the bird was *Vireo philadelphicus*. Being unable to find any previous record I believe this to be the first specimen which has been taken in the State of West Virginia. — R. B. McLAIN, *Wheeling, W. Va.*

**A Note on Kirtland's Warbler (*Dendroica kirtlandi*).** — On May 21 of this year, while looking for Warblers in our grove, my attention was

attracted by a loud and entirely unfamiliar song, the cause of which was found to be a rather plain Warbler among the lower branches of a large oak. The actions of the bird were slow, for a Warbler, reminding me more of those of the Red-eyed Vireo. It moved by hops, seldom moving along the branches, but usually sat still and turned its head in all directions in search of insects. At rather short intervals it gave out its loud, passionate song, almost like an Oriole's in the depth of its tone,—a contrast to the high notes of many Warblers. Only once or twice did I see it dart after insects in the air, and it wagged its tail but slightly. Unlike most Warblers it stayed for a long time in one tree and always in the lower half. It did not, however, resort to the bushes or in any way act like a terrestrial species, as Mr. Widmann's specimen did. This particular individual was very tame.

The next morning I heard the song again and went immediately to shoot the bird, lest I might be mistaken as to its identity. This time, however, it was shy and flew at once to another yard. Later it returned to the apple trees in the garden, and, without waiting for any more observations I shot it. This specimen proved to be a male.—ELIOT BLACKWELDER, *Morgan Park, Chicago, Ill.*

**The Hooded Warbler at Montville, Conn.**—On June 18, 1899, I took a Hooded Warbler (*Wilsonia mitrata*) that was singing in some mountain laurel bushes in an oak wood near the town of Montville, Conn., on the southern bank of the Thames River. It was the first time I have ever heard this species sing, and as I could not get within forty yards of it or see it plainly I was obliged to take the bird. I am not aware that the species has been recorded from the region of this river.—REGINALD HEBER HOWE, JR., *Longwood, Mass.*

**Odd Nesting of Maryland Yellow-throat.**—On June 15 of the present year a friend of mine sent for me to come to his house and look at a nest which was built in a shoe, and also to identify the birds. Upon arriving there I was surprised to see *Geothlypis trichas* nesting in a shoe. The locality chosen was near a back entrance to a house situated on the main street of our town. A pair of shoes, which were the property of my friend, were placed outside of the door on the under pinning which projected out from the side of the house about two feet. One day he had occasion to wear them and went out and brought them into the house; as he was about to put them on, he discovered something in one of them, and upon examination found it to be a nest.

The other shoe contained a few dry grasses and other fine material, but for some reason the bird gave up the idea of building in that, and took up housekeeping in shoe No. 2. My friend immediately put the pair of shoes back, thinking that she would return, and upon glancing into the shoe the next day was surprised to see that it contained an egg. She continued laying until she had deposited five. The next day after

the fifth egg was laid a dog came around near the back door and caught sight of the bird in the shoe and made a dash for her, the bird escaping, but breaking three of the eggs.

The shoe, nest, and two eggs are in my collection. The nest was composed of dry grasses and fine moss and lined with horse hair. — ARTHUR WILLIAM BROCKWAY, *Old Lyme, Conn.*

**Puerto Rico Honey Creeper.** — I have been interested in a pair of Honey Creepers, *Cæreba portoricensis* (Bryant), building about my house. They began in a rose bush, but it being too close to the ground they deserted the place and are now busy upon another nest in a small tree. The nest is a little larger than a baseball, perfectly round, with the opening like a well drilled auger hole, just below the middle. Outside are grasses and bits of twine; inside are feathers, and when the birds leave the nest for any time they cover the hole with a couple of feathers. The female does this also when she is within, just peeping out with bill and head, which with the aid of my glass makes a *real picture*. These birds are our 'Jenny Wrens,' and there are a good many of them here all around our houses, especially where roses, coral plants, and other smaller flowers abound. We have become very much attached to them. — GEORGE B. PRATT, *San Juan, Puerto Rico.*

**Notes on Marian's Marsh Wren, *Cistothorus marianæ*, and Worthington's Marsh Wren, *Cistothorus palustris griseus*.** — On April 16, 1897, I shot a very dark colored Marsh Wren near Mount Pleasant, South Carolina, which has the top of head deep black. At Mr. Ridgway's request, I sent the specimen to him and under date of June 10, 1897, he wrote me as follows: "I have just finished examining the Wren, with the aid of Mr. Brewster's series of both *marianæ* and *griseus*. Your dark bird is intermediate, but on the whole may best be considered an exceptionally dark specimen of *griseus*. *Marianæ* is a more rusty brown and usually has the breast speckled with blackish."

I sent the Wren above mentioned to Mr. Brewster and he wrote me under date of Dec. 6, 1897, as follows: "As to the April bird (Wren), I cannot agree with Mr. Ridgway, for it has absolutely none of the true characters of *griseus* and is quite indistinguishable, so far as I can see, from some of my examples of *marianæ* from Tarpon Springs, Florida; although it certainly has more white beneath than is usually the case with that form. In respect to the coloring of the upper parts, and especially of the crown, it is typical *marianæ*, to which I should accordingly refer it despite the locality at which it was taken."

It will be seen from the above that this record extends the range of this bird to the Atlantic coast, and that it is an abundant bird in this State during the migrations the following records will show. On Oct. 1, 1898, I killed four; Oct. 4, five; Oct. 11, one; Oct. 15, one; Oct. 17, three; Oct. 28, two; Oct. 31, two; April 21, 1899, one; May 6, one; May 8, one.

This Wren does not breed anywhere near Mount Pleasant, but is simply a migrant. It will, without doubt, be found breeding on the North Carolina coast.

Worthington's Marsh Wren, *Cistothorus palustris griseus*, which was described by Mr. Brewster (Auk, X, July, 1893, 216), was a very common resident breeding bird. In 1893 I took many nests and eggs—all of them being fully identified—but since that date I have taken but *two* birds! They do not breed here now, and the bird is practically extinct. The great cyclone of August 27-28, 1893, must have completely exterminated them, as it occurred at the height of the breeding season. This Wren was a very late breeder, as full complements of their eggs could not be taken until the first week in July, and two, or even three, broods were raised. This Wren is very distinct—being a *gray* bird—with the black of head confined to the extreme sides of head. There is no evidence that it interbreeds with *palustris* or *marianæ* and should be accorded full specific rank.

Since the above was written the July 'Auk' came to hand and I notice an article by Mr. T. G. Pearson mentioning Worthington's Marsh Wren, *Cistothorus palustris griseus*, page 250, as taken at Beaufort, N. C., the identification being made by Mr. Ridgway. I wrote Mr. Pearson to send me these Wrens and they are both typical *marianæ*. The August 2nd specimen is in very worn plumage, but the characters are diagnostic of *marianæ*—the crown being wholly black and the upper tail-coverts showing traces of barring, this being plainly noticeable in spite of the worn plumage.—ARTHUR T. WAYNE, *Mount Pleasant, S. C.*

**Birds Feeding on Hairy Caterpillars.**—In the July Auk, A. W. Perrior, of Syracuse, N. Y., in a note on the 'Food of the Robin,' expresses surprise at seeing the Robin feeding the larvæ of *Clisiocampa americana* to her young, saying that this is the first instance he has known of any bird feeding on them except the Cuckoo. From my own experience I can testify that the Baltimore Oriole eats them also. I have no doubt that a little observation would give us a long list of birds which eat them, judging from the list which has been found to eat *Clisiocampa disstria*, a caterpillar about as hairy as *C. americana*. While in Brandon, Vt., for a short time this spring, I saw the larvæ of the latter eaten by Baltimore Orioles, Red-winged Blackbirds, White-breasted Nuthatches, Chipping Sparrows, Robins and Red Crossbills; and this list is extended to no less than twenty-four species by the observations of Miss Caroline G. Soule, who is working on *C. disstria* at that place. Besides those given above, her list includes Tanagers, Rose-breasted Grosbeaks, Cedarbirds, both Cuckoos, Bluebirds, Flickers, Warbling, Red-eyed, White-eyed and Yellow-throated Vireos, American Goldfinches, Catbirds and Yellow Warblers, as well as Kingbirds, Phæbes, Great-crested Flycatchers and Chebecs. The Flycatchers darted upon the caterpillars as they swung suspended by their webs or fed on pendant leaves.—MARY MANN MILLER, *Brooklyn, N. Y.*

## RECENT LITERATURE.

**Pycraft on the Osteology of the Impennes.**<sup>1</sup>—Mr. Pycraft's second 'Contribution to the Osteology of Birds' treats the Penguins in the same thorough manner that his previous paper dealt with the Steganopodes. We have a detailed account of the skeleton, including that of the young, and this is followed by keys to the genera and species based on characters furnished by various portions of the adult skeleton. It is gratifying to have one more group of birds whose genera are based on osteological characters, also gratifying to see Ratitæ and Carinatae put in quotation marks.

Like Mr. Grant in the British Museum Catalogue, Mr. Pycraft admits six genera in this compact group of birds and these, as indicated by the diagram, have, with the exception of *Eudyptula*, which has lagged a little, become pretty evenly differentiated from the supposed ancestral form. To use an hibernicism, Mr. Pycraft gives us his conclusions at the beginning, where he states that, while the fore limb represents the high-water mark of skeletal specialization, the skull and other portions of the skeleton being much less specialized, the Penguins do not furnish us with any facts of great importance or carry us beyond the confines of the class. The distinctness of the metatarsals, a feature approached by *Fregata*, is alluded to and it is considered that they represent a halfway stage between the primitive, completely separate metatarsals on the one hand, and the highly-specialized cannon bone on the other, where the three metatarsals are all merged to form a single shaft.

It is pointed out that the Penguins are not plantigrade, but is Mr. Pycraft quite correct in saying that the legs are comparatively little used for the support of the body?—F. A. L.

**Montgomery on the Food of Owls.**—In the 'American Naturalist' for July, 1899,<sup>2</sup> Mr. Montgomery gives the results of his observations on the feeding habits of two species of Owls, — the Short-eared Owl (*Asio accipitrinus*) and the Long-eared Owl (*A. wilsonianus*), the locality being the vicinity of West Chester, Pa. His observations are novel in being based not upon the stomachs of Owls killed, but upon their 'food pellets' collected from the ground beneath their roosting trees. Four Long-

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<sup>1</sup>Contributions to the Osteology of Birds. Part II. Impennes. By W. P. Pycraft. Proc. Zool. Soc., London, Dec. 13, 1898.

<sup>2</sup>Observations on Owls, with particular regard to their Feeding Habits. By Thomas H. Montgomery, Jr. Am. Nat., Vol. XXXIII, July, 1899, pp. 563-572.

eared Owls were under observation from Dec. 25, 1898, to Feb. 22, 1899, and one Short-eared Owl from Feb. 26 to March 26, 1899. The pellets were gathered regularly once each week, not only from beneath their roosting trees but from beneath the trees that served as their casual feeding perches, the number of Owls frequenting these roosting and perching trees being also noted daily. The results are given in tabular form, showing the number and species of Owls under observation each day, the number of pellets gathered at each collection, the contents of the pellets, and the daily food average, which, consisting almost wholly of small mammals, varied from 1.57 to 2.16 for each Owl daily. A summary of the contents of the food pellets found under the roosting tree of the Long-eared Owls is thus stated: "2 birds, 1 *Blarina*, 2 *Peromyscus leucopus*, 1 *Mus musculus*, 6 *Microtus pinetorum*, 319 *M. pennsylvanicus*, and 18 undetermined individuals of *Microtus*." The contents of the pellets gathered under the other roosting tree, occupied by the Short-eared Owl, and occasionally by one of the Long-eared Owls, is thus summarized: "1 *Cambarus* [crayfish], 5 birds, 2 *Blarina parva*, 1 *Zapus hudsonius*, and 105 *Microtus pennsylvanicus*." Pellets were gathered from under a number of other trees, all within the radius of an eighth of a mile, which served as feeding perches, which are thought to have been all, or nearly all, produced by these same Owls. "These pellets contained the remains of 5 small birds (including *Regulus*, *Junco*, *Certhia*), 3 *Blarina brevicauda*, 3 *B. parva*, 1 *Blarina* undetermined, 2 *Zapus hudsonius*, 3 *Peromyscus leucopus*, 1 *Microtus pinetorum*, 139 *M. pennsylvanicus*, and 4 undetermined individuals of *Microtus*." Thus these five Owls, in the space of about one month, destroyed 12 small birds, 10 shrews, and 600 field mice, of which the greater part were the common meadow vole or 'meadow mouse.' The examination of food pellets gathered at other localities gave similar results, except that the remains of no birds were found.

Mr. Montgomery concludes his very interesting and valuable paper as follows: "In conclusion, it may be noted that these data add further support to the well-proven results of ornithologists, that our local Owls (with the possible exception of the Great Horned Owl) are of the greatest benefit to the agriculturist. Our three commonest local Owls, the Screech, Long-eared, and Short-eared (as well as the rarer Acadian and Barn Owl), are indefatigable destroyers of mice and insects. But since this is the case, and since the group of the Owls is one of great interest to the naturalist, it is to be hoped that future students of their dietary habits will avoid studying their stomachs for this purpose, and in order not to destroy them examine their food pellets instead."—J. A. A.

Lantz's 'Review of Kansas Ornithology.'<sup>1</sup>—This very carefully pre-

<sup>1</sup> A Review of Kansas Ornithology. By D. E. Lantz, Manhattan, Kan. Read before the Academy Oct. 28, 1897. Trans. Kansas Academy of Science, 1896-1897, pp. 224-276. July, 1899.



pared paper consists of two parts,—I, 'The Bibliography of Kansas Ornithology' (pp. 224-244); II, 'An Historical List of Kansas Birds' (pp. 244-276). The first gives an annotated chronological list of books and papers containing references to the birds of Kansas, and includes also the titles of all papers on ornithology by Kansas authors, whether or not relating to Kansas birds. The list begins with the report of Pike's Expedition, published in 1810, and includes about two hundred titles, annotated to show their bearing upon Kansas ornithology, specifying also in each case the additions made to the list of Kansas birds. At the close a 'Recapitulation' indicates, in chronological order, the date and number of species added by the different authors.

Part II consists of a concisely and judiciously annotated systematic list of the birds of Kansas, numbering 351 species. In addition to a statement as to the character of the presence of each species in Kansas, there are historical notes, giving the date of the first record of the species for the State, and the authority therefor. As regards accuracy and completeness, this is doubtless one of the most carefully prepared State lists that has yet appeared, and has the additional feature of being also historical. It is fairly free from typographical errors, but is worthy of a better typographical setting, the technical names being printed in the same uniform type as the text, not only in the 'List' itself, but in the 'Bibliography,' which latter is also devoid of the special bibliographical marks commonly employed to designate the makeup of title pages, etc. But this, we are informed, is not the fault of the author, whose wish, as manifested in the preparation of the copy, was not only disregarded, but he was not even permitted by the State printer to revise the proof sheets! That so few errors have crept in is a sufficient guarantee that Prof. Lantz must have given the printers exceptionally well prepared copy, and indicates that the care and exhaustive research shown in the bibliographical and historical phases of the paper extended to the clerical details of composition.—J. A. A.

**The Goss Collection of Mexican and Central American Birds.**—As is well known, it was the habit of the late Col. N. S. Goss, during the later years of his life, to spend the winter season in some part of tropical North America. His first trip was to Guatemala in 1882, and his last, in 1889, to Nicaragua and Costa Rica. While he published very few of his observations, it was, we are told, "his ambition to have his collection contain representatives of every species of North American bird." The present paper,<sup>1</sup> compiled by Prof. Lantz, contains a list of his collections,

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<sup>1</sup> A List of Birds collected by Col. N. S. Goss in Mexico and Central America. From the Collector's Notes; compiled by D. E. Lantz, Manhattan. Read before the Academy October 27, 1897. Trans. Kansas Academy of Science, 1896-1897, pp. 218-224. July, 1899.

with the number of specimens of each species and the locality of collection. The list numbers 256 species, and is preceded by a brief itinerary of Col. Goss's various collecting trips to Mexico and Central America. The occasional typographical errors are doubtless due to the fact that the author was not permitted to revise the proof sheets, as already explained above in the case of his 'Review of Kansas Ornithology.'—J. A. A.

Cory's 'The Birds of Eastern North America. Water Birds. Part I.'<sup>1</sup>—The tendency of the present day, in the production of popular bird books, seems to be to reduce the 'science of birds' to easy terms, in response to, and in stimulation of, the interest of late so generally manifested in out-of-door studies. The scope and character of these attempts to popularize bird study are as varied as their authors are numerous. In the present case we have a work that is not only elaborate in its pictorial details, simple in method of treatment, and comprehensive in scope, but also systematic and scientific in arrangement. It is constructed on much the same plan as the author's previous 'How to Know the Shore Birds' (1897), and 'How to Know the Ducks, Geese, and Swans' (1898), previously reviewed in this journal (Auk, XIV, 1897, 418, and XV, 1898, 278). 'That even he who runs may read,' a preliminary leaf facing the title page contains an 'Artificial Key to distinguish Land Birds and Water Birds,' which, in addition to the explanatory text, contains four cuts illustrating foot structure, and full-length figures of various species of Shore Birds, Gallinules, Rails, and Herons. A preface of two pages explains the use of the 'Keys,' following which is an elaborately illustrated 'Glossary' of terms used in describing the principal parts of a bird. In the 'Introduction' (pp. 3-7) the structure of the wing, tail, feet and bill are shown by aid of numerous cuts, and the technical terms used in describing these parts are carefully defined. (We must here note the strange lapsus of 'rectices' for rectrices occurring repeatedly on p. 4.) There are also diagrams and directions 'How to measure a Bird' (pp. 8, 9). Then follows an 'Index Key to Families' of the Water Birds, with 16 cuts, illustrating the structure of the foot in the various groups. From this general introductory matter we pass to the 'Key to Families' (including subfamilies), illustrated by cuts of bills and feet, heads, and small full-length figures, the key being based primarily on the palmation, position and number of the toes, the form and structure of the bill, and general size (pp. 11-24). The text is brief, the cuts occupying the greater part of the

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<sup>1</sup>The Birds | of | Eastern North America | known to occur East of the  
Ninetieth Meridian | — | Water Birds | — | Part I | — | Key to the Families  
and Species | — | By | Charles B. Cory | . . . [= 10 lines, titles and list of the  
author's principal works] | — | Special Edition printed for the | Field Colum-  
bian Museum, Chicago, Ill. | —1899—Sm. 4to, 1 l., pp. i-ix 1-142, profusely  
illustrated with halftone and line text cuts.

twelve pages devoted to the 'Key to Families,' which follow each other in arbitrary sequence. Then follows the 'Key to the Species' (pp. 25-130), arranged in systematic order from the Grebes to the Oystercatchers. Besides the numerous cuts of structural parts, as bill, feet, tail, etc., each species is figured, either full length or half length, to show the most characteristic parts, the illustrations occupying far more space than the text. This is limited to brief diagnoses, in which the distinctive features are emphasized by use of special type. In the case of the Ducks, head figures are given of both sexes of each species; and throughout figures are used to the fullest extent to which they could apparently be of use to the student.

With page 131 begins what will be apparently Part II of the work — a formal description of the Water Birds of Eastern North America, giving brief, nontechnical descriptions of each species in its various plumages, with an account of its geographical range, and nest and eggs, followed by a few lines, in larger type, devoted to the life history of the species. Though not so stated, pp. 131-135 are apparently given as a sample of the main text that is to follow.

The illustrations, by Mr. Edward Knobel, are well adapted to their purpose, though not always artistic. The small line drawings of bills and feet, etc., are very expressive, while the larger wash drawings of heads and full-length figures are in general graceful and effective, except where too much reduced in reproduction. The same figures are repeatedly used in different connections, some of the wash drawings, greatly reduced for use in the keys, appearing again on a larger scale in the body of the work.

With the analytical keys, based largely on size, and the prodigality of illustrations throughout the work, it would seem that the difficulty of identifying our Water Birds is reduced to its simplest terms, and that the author's hope that by the aid here furnished "the novice will be able to identify accurately any of our birds" is not too optimistic. — J. A. A.

Knobel's 'Field Key to the Land Birds.'<sup>1</sup> — This is another 'field book,' the purpose of which is "to enable any lover of birds, without previous knowledge or study of the subject, to identify readily any of our wild birds." The 'Field Key' consists of nine colored plates, 3½ by 6 inches in size, on which about 150 species of the land birds of the northeastern United States are grouped *according to size*, the number and figures to a plate averaging about seventeen. The figures are fairly well drawn, and the size is not too small to permit the advantageous use of colors. In the present case, however, we cannot say the color results

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<sup>1</sup> Field Key | to the | Land Bird | — | Illustrated | — | By | Edward Knobel  
| Boston | Bradlee Whidden | 1899 — 12mo, 3 ll., pp. 1-55, pll. i-ix, colored,  
and various text cuts. \$1.75.

are satisfactory. While in a few instances there is some approach to accuracy, and, as a rule, the coloring is an aid to identification, there are many figures in which the coloring is so misleading as to defy an expert to guess what the figures were intended to represent. This is the more to be regretted since the plan of the book is such that the plates are designed to constitute the 'key.' As said, the figures are grouped on the plates according to size, and hence without regard to natural arrangement, while in the text the species are arranged in systematic order, from the Bob-white to the Bluebird, and numbered consecutively. As the same numbers are used on the plates, where their arrangement is heterogeneous, it is an oversight on the part of the author not to cite the plates in the text, and thus save his reader the trouble of hunting through the plates for the desired figure.

Mr. Knobel divides his birds on the basis of size into the following four categories: 1, 'Birds the size of a Crow or larger'; 2, 'Birds the size of a Robin or Jay, etc.'; 3, 'Birds about the size of a House Sparrow'; 4, 'Birds smaller than a House Sparrow'; the third group being further divided into: 'a, bright colored; b, without speckles; c, brown with speckles.' We must thus look on plate V for No. 144 and on plate IX for 145, with no clue in the text to guide us in our search for the figures of our two species of Nuthatch.

The text consists of a short general description of each bird, followed by a varying amount, from two or three lines to half a page, of biographical information, all printed in uniform type, and as a continuous paragraph, with nothing to distinguish typographically the descriptive from the biographical matter.

The plan of the book is good, but the cheapness of its execution will go far to defeat its excellent purpose. If more care and expense had been devoted to the color printing, and a little more taste had been displayed in the production of the text, the book would doubtless have fully accomplished the author's purpose, and have proved a pleasing as well as useful contribution to the list of popular bird books. — J. A. A.

**Mrs. Miller's 'The First Book of Birds.'**—In the present work<sup>1</sup> we have a book prepared expressly for children by an author especially well-fitted for the task. "This book," says the author, "is intended to interest young people in the ways and habits of birds, and to stimulate them to further study. It has grown out of my experience in talking to schools. From the youngest kindergarten scholar to boys and girls of sixteen and eighteen, I have never failed to find young people intensely

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<sup>1</sup> The First Book | of Birds | By Olive Thorne Miller | with eight colored and twelve | plain plates and twenty | figures in the | text | [Monogram] Boston and New York | Houghton, Mifflin and Company | The Riverside Press, Cambridge | 1899—Square 12mo, pp. x + 150, pll. 20 (eight colored), and 20 text figures. \$1.00.

interested so long as I would tell them about how birds live.... It has, therefore, seemed to me that what is needed at first is not the science of ornithology, — however diluted, — but some account of the life and habits, to arouse sympathy and interest in the living bird, neither as a target nor as a producer of eggs, but as a fellow-creature whose acquaintance it would be pleasant to make."

The book, it is needless to say, is couched in terms easily understood, and written in an attractive and sympathetic vein. It consists of thirty short chapters, grouped under the following four major headings—'The Nestling'; 'The Bird grown up'; 'How he is made'; 'His Relations with us.' Under the first is treated not only the nest and the young bird, but its various changes of plumage, and how it learns to take care of itself, while under the third are given some elementary lessons on the structure of birds, etc. The twelve halftone and eight colored plates are very creditable reproductions of photographs of mounted birds and must add much to the interest and attractiveness of the book. Our only criticism is that they are copied from rather badly stuffed specimens with cheap artificial accessories, the excellence of the reproduction thus only heightening the defects of the tell-tale taxidermy. They hence lack artistic effect, which fact, perhaps, does not seriously detract from their utility as illustrations. — J. A. A.

**Stone on Birds from Bogota.**<sup>1</sup> — The small collection of birds forming the basis of this paper was made by the late Dr. J. W. Detwiller, in the vicinity of Bogota, in 1888-89. It contained 76 species, and as the exact localities of the specimens are indicated, it is of some importance in throwing light upon the distribution of the species. One, *Speotyto cunicularia tolimæ*, is described as new. Incidentally the South American forms of *Speotyto* and *Troglodytes* are reviewed, Mr. Stone recognizing five of the former and ten of the latter, of which eight belong to the *Troglodytes musculus* group. Mr. Stone has also described a new Cuckoo,<sup>2</sup> from the island of St. Andrews, West Indies, as *Coccyzus abotti*, nearly allied to *C. minor*, of which species it is apparently an insular form. — J. A. A.

**Chapman on New Birds from Venezuela.**<sup>3</sup> — A small collection of birds received recently at the American Museum of Natural History

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<sup>1</sup> On a Collection of Birds from the Vicinity of Bogota, with a Review of the South American species of *Speotyto* and *Troglodytes*. By Witmer Stone. Proc. Acad. Nat. Sci. Philadelphia, 1899, pp. 302-313.

<sup>2</sup> A New Species of *Coccyzus* from St. Andrews. By Witmer Stone. *Ibid.*, p. 301.

<sup>3</sup> Descriptions of Five Apparently New Birds from Venezuela. By Frank M. Chapman. Bull. Am. Mus. Nat. Hist., Vol. XII, 1899, pp. 153-156. August 5, 1899.

from Mr. F. W. Urich, and by him gathered in the mountains of Venezuela, near San Antonio, proved to contain a number of new forms, which Mr. Chapman has described, as follows: (1) *Setophaga verticalis pallidiventris*, (2) *Chlorospingus (Hemispingus) canipileus*, (3) *Mecocerculus nigripes*, (4) *Mecocerculus urichi*, (5) *Synallaxis striatipectus*. Several of these are very distinct from any species previously known. The *Synallaxis* belongs to the *S. terrestris* group, and is perhaps mostly nearly related to *S. carri* Chapm. from Trinidad. — J. A. A.

**Oberholser on Untenable Names in Ornithology.**<sup>1</sup> — Mr. Oberholser's paper treats of 36 generic names, and a few additional specific names, which he shows to be untenable through prior use in other connections. For 12 of these he is able to substitute other names already in existence for the groups in question, but for 24 of the genera entirely new names are here proposed. Fortunately only one of the challenged names relates to North American birds, namely, *Micruria* Grant, recently proposed for two species of Murrelets, previously currently referred to *Brachyrhamphus*. For *Micruria* Grant (type, *Brachyrhamphus hypoleucus* (Xantus) Mr. Oberholser proposes *Endomychura*, the species thus standing as *E. hypoleucus* (Xantus) and *E. craveri* (Salvad.).

Lists of the species considered referable, respectively, to these 36 genera are given under the new generic designations. According to all recent codes of nomenclature, these preoccupied names are strictly untenable, and Mr. Oberholser has done good service in showing up their real status and, providing for them proper substitutes. — J. A. A.

**Farrington on a Fossil Egg from South Dakota.**<sup>2</sup> — The specimen here described was discovered in the Bad Lands, near Dakota City, South Dakota, and is believed by the author to be "a petrified egg of an Anatine bird of Early Miocene age." Three photographic views of the egg, natural size, are given on pl. xx, showing its form and structure. The egg measures  $2.03 \times 1.49$  in., and is very well preserved, distinctly showing the shell structure. The author has heard "of the finding of at least two other petrified eggs at different times in the same region," but has been unable to verify the reports or to see the specimens. — J. A. A.

**Gurney and Gill on the Age to which Birds Live.**<sup>3</sup> — In 'The Ibis'

<sup>1</sup> Some Untenable Names in Ornithology. By Harry C. Oberholser. Proc. Acad. Nat. Sci. Phila., 1899, pp. 201-216. June, 1899.

<sup>2</sup> A Fossil Egg from South Dakota. By Oliver Cummings Farrington, Ph.D., Curator, Department of Geology. Field Columbian Museum, Geology, Vol. I, No. 5, pp. 193-200, pll. xx, xxi. April, 1899.

<sup>3</sup> On the Comparative Ages to which Birds Live. By J. H. Gurney, F. Z. S. 'The Ibis,' Jan., 1899, pp. 19-42. Republished, with some revision, in 'The Osprey,' June, 1899, pp. 145-155.

for January, 1899, Mr. J. H. Gurney has brought together a large amount of authentic and interesting information on this subject, respecting which it is so difficult to obtain satisfactory records. The first nine pages of Mr. Gurney's valuable paper relate to the general subject, after which the *Passeres*, the *Psittaci*, *Striges*, *Accipitres*, *Pelecanidæ*, *Ardeidæ*, *Anseres*, and *Diomedeidæ* are passed in review with reference to the known facts regarding their longevity. Then follows a tabular statement of 144 cases, representing 75 species, giving the age and the authority for the record, with finally some comparison between the longevity of birds and mammals, and suggestions as to the points on which further information is needed. From the table it would appear that Thrushes live from 15 to 20 or more years (there is a record for the Nightingale of 25); Finches, from 14 to 23 years; Ravens (two cases), 50 and 69; Magpies and Crows, 17 to 28; Parrots and Macaws, 17 to 80; Owls, 18 to 68; Eagles, 20 to 56, etc. A domestic Goose has a record of 80 years, and a Collared Dove (*Turtur risorius*) of 40. These cases, of course, nearly all relate necessarily to birds held in captivity or in domestication, and hence living under more or less artificial conditions. These conditions we know are often unfavorable to the well-being of the captive, while, on the other hand, they may be exceptionally favorable to long life, in particular cases. On the whole, it is to be presumed, however, that a bird's chances for long life are rather better in a state of nature than in captivity, excluding the domesticated kinds.

This interesting subject has received further attention at the hands of Dr. Gill, who has not only reprinted Mr. Gurney's paper entire, "with some revision," in 'The Osprey' for June, 1899, but follows it with a long article of his own, entitled 'The Longevity of Birds and other Vertebrates.'<sup>1</sup> Dr. Gill considers the subject from the historical and theoretical side, in relation to certain hypotheses for determining the life of an animal, held by various authors, from Buffon and Flourens to Hollis and Bell, by the latter of whom the matter has been recently discussed in 'Nature' (January, March, and May of the present year). These hypotheses are based on the period of gestation, or of adolescence. Dr. Gill believes that there is an inherent fallacy in all the 'laws' thus far proposed, and that a rule which may hold good for some members or groups of a class will not admit of universal application for the whole class, and much less for all vertebrates. "It is evident," he says, "that there are no such ratios between the size of a bird and its duration of life, its period of embryological development, and its period of adolescence as prevail among mammals. Nevertheless, there are indications that there is a tendency at least towards an extension of the duration of life among some large birds, as those of prey, and towards the retardation of the development of the livery of perfect maturity. Even this,

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<sup>1</sup> 'The Osprey,' Vol. III, June, 1899, pp. 157-160.

however, is not perfectly proved, and there are indications, on the other hand, that such tendencies may be a family or group habit."

As Dr. Gill remarks, the subject is one respecting which much more information is required before we can generalize with much degree of certainty. Mr. Gurney has led the way, with his admirable collection of facts, to which, it is to be hoped, many other data of similar character will be soon added. — J. A. A.

**Kellogg and Others on Mallophaga.** — The July number of 'The Auk' (pp. 232-236) contained a paper 'On Some Parasites of Birds,' by Prof. Vernon L. Kellogg of the Leland Stanford University. It may interest some of the readers of 'The Auk' to know that Prof. Kellogg and some of his fellow workers in this field have recently published several papers on the Mallophaga<sup>1</sup> of some of our western American birds, forming the third of a series of memoirs on this subject.<sup>2</sup> In this article of over 200 pages and sixteen plates, a large number of new species are described and figured, and others listed, with their hosts, which latter number over 100 species, representing nearly every family of the North American ornith. — J. A. A.

**Huntington's 'In Brush, Sedge, and Stubble.'** — Since our former notice of this work<sup>3</sup> in the January number of this Journal (*antea*, p. 89) Parts III to VII have been received, and fully warrant the praise bestowed upon Parts I and II. As the general character of the work has been already stated, it remains to add that Parts III and IV treat of the 'Grouse of the Woods and Mountain,' this subject being completed in Part V, which includes also the Turkeys, and some of the Pheasants (the species introduced into North America), the latter running over into Part VI. This part begins (at p. 85) the account of the 'American Partridges,' which also occupies the whole of Part VII. The text is a combination of ornithology and hunting experiences, and the illustrations are equally varied. The ornithological part consists of photographs of mounted specimens (often in series to show variations of plumage), of

<sup>1</sup> New Mallophaga, III. Comprising Mallophaga from Birds of Panama, Baja California and Alaska, by Vernon L. Kellogg, Professor of Entomology, Leland Stanford Junior University. Mallophaga from Birds of California, by Vernon L. Kellogg and Bertha L. Chapman. The Anatomy of the Mallophaga, by Robert E. Snodgrass, Assistant in Entomology, Leland Stanford Junior University. Occasional Papers of the California Academy of Sciences, Vol. VI, 1889, pp. 1-224, pl. i-xvi. = Contributions to Biology from the Hopkins Seaside Laboratory of the Leland Stanford Junior University, XIX.

<sup>2</sup> Nos. I and II, by Professor Kellogg, were published in 1896.

<sup>3</sup> In Brush, Sedge, and Stubble, folio, Pts. III-VII, 1899. The Sportsman Society, Cincinnati.



birds in life, especially of birds on their nests, and photographic reproductions of original drawings. The scenic illustrations give not only hunting scenes, but views of picturesque localities, more or less related to the haunts of the birds.—J. A. A.

**Publications Received.**—Chapman, Frank M. Descriptions of Five apparently New Birds from Venezuela. (Bull. Am. Mus. Nat. Hist. XII, 1899, pp. 153-156.)

Cory, Charles B. The Birds of Eastern North America. Water Birds. Part I. Sm. 4to, Field Columbian Museum, Chicago, 1899.

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## CORRESPONDENCE.

### The Proper Function of 'Binomials' and 'Trinomials.'

EDITORS OF 'THE AUK':—

*Dear Sirs:*—Without wishing to throw discredit upon the much abused second edition of the A. O. U. Check-List of North American Birds, I nevertheless feel called upon to draw attention to some inconsistencies contained therein, which indicate the present tendency to depart from some of the Canons of Nomenclature originally adopted by the Union.

I refer to the nomenclature of island forms. The A. O. U. Code distinctly makes "*intergradation* the touchstone of trinomialism," and

insular birds being obviously prevented from intergrading with mainland forms, ought to be uniformly provided with *binomial* names. Any one who takes the trouble to examine the Check-List and the recent Supplements thereto will find that this custom is by no means followed out, as very many of the recently described insular forms from the California islands, which differ but slightly from allied mainland birds, appear as *trinomials*. In other words '*intergradation*' has been disregarded and '*degree of difference*' recognized as the criterion for deciding the specific or subspecific claims of a given form.

We have, for instance, *Carpodacus mcgregori* from San Benito and *Carpodacus mexicanus clementis* from Santa Barbara; *Aphelocoma insularis* from Santa Cruz, while the *Helminthophila* from the same island is *H. celata sordida*. The Guadalupe Island birds are, I believe, without exception, written as binomials, but the vast majority of the other insular birds which have been described recently are listed as trinomials.

In recent American mammalogy the tendency is in the other direction, and not only are all island forms, no matter how slightly differentiated, regarded as 'species' (*i. e.*, binomials), but many peninsular and other continental forms which may readily be expected to intergrade are treated in the same way. In fact, the tendency among our mammalogists seems to be to depart from trinomialism altogether.

This to my mind is much to be regretted, and will work irreparable damage to nomenclature. A trinomial name carries to the average student just twice the information that a binomial would under these circumstances. For instance, to one who is not conversant with every paper relating to modern mammalogy, how much more knowledge the name *Lynx canadensis subsolanus* conveys than *Lynx subsolanus*. The former indicates at once a race of the Canada Lynx, the latter leaves him in doubt whether the animal is related to the Canada Lynx or the Wild Cat (*L. rufus*). It seems that some modification of the A. O. U. Canon relating to trinomials is desirable, especially as we seem to be deliberately violating it, but this can surely be effected without abolishing this extremely useful system.

Animal forms (using this term for any recognizable species or subspecies) are of four kinds:—(1). Those which exist side by side in the same area without intergradation as the Hermit and Olive-backed Thrushes. (2). Those which inhabit different areas and intergrade where the areas join. These are obviously modified from one far ranging form which is being broken up by different geographic environments. (3). Those which inhabit different areas, but which do not intergrade and are often separated by wide gaps. (4). Island forms which are often closely related to nearby continental forms, but are of course completely isolated.

By the A. O. U. Code trinomials can only be applied to forms coming under category (2), and all others are treated as binomials. By common usage in ornithology, however, we adopt trinomials for such forms under

(4) as show only a slight deviation from the allied continental type, and we also treat very many forms as trinomials which from lack of material we are undecided whether to place in (2) or (3).

Personal opinion *must necessarily* govern such cases, no matter what Code we set up, just as it must govern all cases where 'degree of difference' is adopted as our criterion. Considering the great diversity of custom at present, it seems to me time that we came to some definite agreement on the matter, and our practice shows that 'degree of difference' *must* influence us in certain cases.

To my mind (A), binomials should be applied to all forms which occur together without intergradation, no matter how slight the differences, and (B) trinomials, to geographic races which intergrade, or which differ so slightly that there is every probability of intergradation, and to slightly differentiated island forms. Only such geographic races should be considered as species (binomials) as are markedly different, and of the intergradation of which there is no probability. In other words, where intergradation is probable, give it the benefit of the doubt. This practice is nearly that followed by the A. O. U. Committee, but is at variance with that of many of our mammalogists, with whom the custom seems to be to call everything a species until intergradation is proven; which will speedily result in the adoption of a binomial name for every geographic variation—a most undesirable state of affairs and a distinct retrograde step in nomenclature.

WITMER STONE.

*Academy of Natural Sciences, Philadelphia.*

Sept. 6, 1899.

[Without at present attempting to discuss the question of the application of binomials and trinomials in its broader aspects, there is one fact in connection with the naming of insular forms which Mr. Stone and other writers<sup>1</sup> on this subject have apparently not considered. In challenging the propriety of giving a trinomial name to an insular form on the ground that the nature of its range renders geographical intergradation with its nearest ally impossible, they evidently have not given due allowance to the possibility of intergradation through individual variation.

Island forms, as all systematists know, because of their isolation are often separated on the basis of characters too slight to warrant similar action if they were inhabitants of the mainland. Hence it frequently happens that among a large series of a given form from a certain island there will be found a number of individuals indistinguishable from this form's representative on the mainland or on a neighboring island, and *vice versa*. Thus, for example, when we examine large series of *Pyrrhulagra noctis* or *Dendroica petechia* from the West Indies we find a complete intergradation of the extremes and, at the same time, average differences among the series from the different islands of sufficient importance to be recognized trinomially. — FRANK M. CHAPMAN.]

<sup>1</sup> Cf. William Palmer, *The Nidologist*, III, 1896, 91.

## NOTES AND NEWS.

THE SEVENTEENTH ANNUAL CONGRESS of the American Ornithologists' Union will be held in Philadelphia, in the Lecture Hall of the Academy of Natural Sciences, beginning on the evening of November 13, 1899. The evening session will be for the election of officers and members and the transaction of the usual routine business. Tuesday and the following days, the sessions will be for the presentation and discussion of scientific papers, and will be open to the public. Members intending to present communications are requested to forward the titles of their papers to the Secretary, Mr. John H. Sage, Portland, Conn., so as to reach him not later than November 8, in order to facilitate the preparation of the program of papers to be read at the Congress.

MAJOR JOSHUA L. FOWLER, 10th Cavalry, U. S. Army, an Associate Member of the American Ornithologist's Union, died on board the Steamer 'Ella' July 11, 1899, while returning home from Holguin, Cuba. The immediate cause of death was acute gastritis, but for sometime prior to leaving Holguin, where he was in command, he had had attacks of malarial fever, which probably weakened him and made him more susceptible to the graver disease.

Major Fowler was born at Fishkill, N. Y., February 20, 1846, and at the age of eighteen entered West Point. Graduating from the Military Academy he was assigned to the 2d U. S. Cavalry, June 15, 1868, promoted to captain in 1881, and remained with that regiment until July, 1898, when he became Major in the 10th Cavalry. During these thirty years he was stationed at various army posts in Nebraska, Wyoming, Montana, California, Oregon, Washington, Arizona and Colorado where there was ample opportunity to study the birds. Although not a writer on ornithology, he was deeply interested in the subject, and more than one member of the Union was indebted to him for valuable assistance in procuring specimens and notes. Even at his new post in Cuba, where the duties were rather trying, he found time to write to an ornithological friend about the birds he saw from day to day.

He was a brave and conscientious soldier, universally beloved and respected by officers and men, an ideal husband and father, and a true friend. His frank, cheerful disposition, courteous manner and sound judgment, coupled with his extensive general knowledge, made him a great favorite, and one who will live long in the memory of a multitude of friends. A wife and son, Frederick Hall Fowler, also a member of the Union, survive him. — A. K. F.

MR. JOHN CORDEAUX, a Corresponding Member of the American Ornithologists' Union, died at his residence, Great Cotes House, Lincoln,

England, on the 1st of August, 1899, in his 69th year, after a short but painful illness. He was born on the 27th of February, 1831, at Foston Rectory, Leicestershire, and was the eldest son of the Rev. John Cordeaux, M. A., rector of Hoonton Roberts, Yorkshire. From a memorial notice by his friend and associate, Mr. W. Eagle Clarke ('The Naturalist,' Sept. 1899, pp. 277-279) we learn: "As a young man he went to live at Great Cotes, on the Lincolnshire bank of the Humber Estuary, and here he made for half a century those interesting and valuable observations on birds and their migratory movements which have not only made his name familiar to all British ornithologists, but also to those of Europe and America. . . . In the year 1873, Mr. Cordeaux published his 'Birds of the Humber District'—a book teeming with original observations on the birds resident and migratory of the district he had made so preëminently his own. . . . It is, perhaps, in connection with the interesting phenomenon of the migrations of our British birds that Mr. Cordeaux has come most into prominence. He was practically the founder of that elaborate and exhaustive enquiry which was undertaken by the British Association in 1880, in which year a committee of experts was appointed to investigate the subject of bird migration as observed on the coasts of Great Britain and Ireland. . . . During all this period—now well nigh on to twenty years—Mr. Cordeaux acted as Secretary to the Committee, a post which was no sinecure, especially during the years of the Committee's active existence, 1880-1887; and it is not too much to say that he was the life and soul of the enquiry, while in later years he has been the valued adviser of him who undertook to prepare the results of the investigation as a whole.

"Mr. Cordeaux had a competent knowledge in several other branches of natural history, especially as regards botany, mammals, and fishes. He filled, with distinction, the important office of President of the Yorkshire Naturalists' Union, and, on its formation in 1890, he was elected to the chief post of honour in the Lincolnshire Naturalists' Union as its first President. He was gifted with a graceful pen and a poetical imagination, and these contributed to make his writing peculiarly attractive. As a friend and a man it is impossible to speak in terms too high. He possessed a singularly charming personality, and was beloved by all who knew him, while his sterling worth and lofty principles won for him universal esteem. By his death a wide circle has lost a true and very dear friend, and British natural history an enthusiastic and accomplished devotee."

In the same number of 'The Naturalist' there is a much longer and more detailed tribute to his memory by the Rev. E. A. Woodruffe-Peacock.

VOLUME I, Number 1, of 'The Gulf Fauna and Flora Bulletin' bears date June, 1899. It is a bi-monthly octavo magazine, issued by the Louisiana Industrial Institute, Ruston, La., under the editorship of

Prof. W. Edgar Taylor. "Its aims are to encourage scientific research of a biologic nature. Its columns are open to all biologists, more especially investigators of the so-called Gulf section, broadly speaking." The first number, consisting of 48 pages, opens with a portrait and biographical sketch of the late Alvin W. Chapman, "educator, physician, author and botanist," and known to all botanists as the author of 'The Flora of the Southern United States.' In the varied contents of this issue we observe nothing ornithological, although ornithology must fall within its scope.

The June number of 'The Osprey' makes the following editorial announcement: "Dr. Coues has retired from the editorship of *THE OSPREY*, and Dr. Gill, who had withdrawn his name from the April and May numbers, assumes control. . . . The publication will be resumed with the September number, and conducted in such a manner as not to infringe on the rights or feelings of others, and in harmony with all our scientific brethren. Care will be taken that the contributions to the magazine shall be worthy of a place in it, provision will be made for the exposition of the characteristic features of the avifauna of our new possessions in the Atlantic as well as Pacific oceans, and current news of interest to ornithologists will be given in the successive numbers. Pertinent illustrations will also be increased." We feel sure that this announcement will give sincere pleasure to the friends of 'The Osprey,' with whom we join in best wishes for its future prosperity and usefulness.

Since writing the above the first number of Volume IV, for September, has appeared, containing papers of more than usual interest, including one on the birds of Hawaii.

A NEW edition (vermehrte Auflage) of Gätke's 'Die Vogelwarte Helgoland' is now appearing in parts, to be completed in sixteen parts, under the editorship, as before, of Dr. R. Blasius, of which, through the editor's kindness, we have received the first six parts. It is published at one mark per part, or 16 marks for the completed work, by Joh. Hein. Meyer, Braunschweig.

WE HAVE also received the prospectus and the first two parts of Dr. Eugène Rey's 'Die Eier der Vögel Mitteleuropas,' to be issued in 25 monthly parts, with five colored plates to each part, giving a total of about 1200 figures. The work is large octavo in size, finely printed, and the plates are exceptionally fine. The price is two marks per part. The work is published by Fr. Eugen Köhler, Gera-Untermhaus, Russia.

Of the new edition of 'Naumann, Naturgeschichte der Vögel Mitteleuropas,' issued by the same publisher, 45 parts have already appeared, forming volumes II, V, and VI. The whole work will form twelve folio volumes, or 120 Lieferungen, at one mark per part. It is edited by Dr. Carl R. Hennicke, with the coöperation of a large number of the leading European ornithologists. Vol. V, now before us, treating of the Birds

of Prey, consists of 334 pages of text and 71 beautiful chromolithographic and 4 plain plates, and is altogether a most attractive and authoritative work. Like the original 'Naumann,' this cannot fail to mark an era in the history of European ornithology.

THE HARRIMAN scientific expedition to Alaska, mentioned in the July number of 'The Auk' (p. 302), successfully completed its work and returned about Aug. 1, as planned. Important discoveries were made in various departments of science, and it is proposed to publish in due time the scientific results of the expedition in two volumes, one to contain a general history of the expedition and the other the technical papers. A report on the mammals will be prepared by Dr. Merriam, and one on the birds by Mr. Ridgway and Dr. Fisher, other specialists also reporting for their respective departments. The volumes will be copiously illustrated, the cost of publication being generously defrayed by Mr. Harriman, who has spared no pains to make the expedition a success, both as a pleasure trip for his guests and as an expedition for scientific research.

WE LEARN through Mr. Frank S. Daggett, Vice-President of the Pasadena, Cal., Academy of Sciences, that "Mr. Joseph Grinnell, who joined a gold hunting expedition into the Kotzebue Sound region in the spring of 1898, for the purpose of extending his knowledge of west coast birds, has at last been heard from. The party wintered north of the Arctic Circle, several hundred miles up the Kowac River, and were ten and one half months without communication with the outside world. A fine series of skins of many species of birds was preserved, including summer and winter plumages, and young in all stages, besides nests and eggs of many rarities. Those who know of Mr. Grinnell's painstaking methods will look forward to his return and the appearance of his articles and photographs with much interest. The ice of Kotzebue Sound broke July 9, enabling their craft to pass south, through Berings Straits to Cape Nome, where they arrived three weeks later. Here Mr. Grinnell will continue investigations until late in September, touching at Ounalaska, Aleutian Islands, on the home trip."

AS WE go to press a meeting of the Hungarian and Austrian ornithologists is in session at Sarajevo, Bosnia, the meeting having been called for September 25-29. The program includes: (1) Report of the Hungarian Ornithological Central: (a) Exhibition of maps and tables with lectures on bird migration; (b) Proposal of coöperative methods for observing and elaborating the phenomena of migration. (2) Report of the Austrian Committee for Ornithological Observation Stations. (3) Report of the Museum of Sarajevo: (a) Maps and explanatory lecture on the migration of birds in Bosnia and Herzegovina; (b) Report on ornithological investigations in the Balkan States, illustrated by a fine



collection of birds from those countries. There will also be various excursions to nearby localities of special ornithological interest. The purpose of the meeting, as announced, is for the discussion of principles to be followed in the continuation of the great work on bird migration carried on at the large number of observation stations extending over a wide territory in Austria and Hungary, by the organizations here mentioned.

THE THIRD INTERNATIONAL ORNITHOLOGICAL CONGRESS will be held, under the patronage of the French government, from the 26th to the 30th of June, 1900, in the series of official congresses of the Paris Universal Exposition. This session has been organized under the direction of the Permanent International Committee named at the Second Congress, held at Budapest, in 1891. Important questions relating to the classification, habits, migrations, uses, breeding and acclimatation of birds form the matter of discussion and reports of the coming congress. The organizing committee is making every effort to insure the success of the congress by bringing together the chief naturalists of the world. The Honorary President is M. Milne-Edwards, Director of the National Museum of Natural History; the Acting President, M. Oustalet, the Secretary, M. de Claybrooke, and the Treasurer, Baron d'Hamonville, hold corresponding posts in the Permanent International Committee. In the Comité de Patronage, comprising foreign specialists adjoined to the French organizing committee, there are the following American members: Messrs. W. Brewster, Cambridge, Mass.; Elliott Coues, Washington; D. G. Elliot, Field Columbian Museum, Chicago; Clinton Hart Merriam, Department of Agriculture, Washington; Harry C. Oberholser, Biological Survey, Department of Agriculture, Washington; Robert Ridgway, Smithsonian Institution, Washington; R. W. Shufeldt, Washington; and Dr. L. Stejneger, Smithsonian Institution, Washington.

There will be admitted as members of the congress all delegates of French and foreign governments, and those who pay the subscription fee of twenty francs. Zoölogical societies and societies of acclimatation, aviculture, and for the protection of animals, may be represented by one or more delegates, the subscription being due for each delegate. Each member will receive the printed proceedings of the congress, and only members will have the right of taking part in the sessions and visits which are being prepared by the organizing committee.

The work of the congress has been divided among five sections, as follows:

I. Systematic ornithology — classification; description of new genera and species; nomenclature. Anatomy and embryogeny of birds. Palæontology; classification, description of new genera and species; ancient faunas, relations of extinct to present species.

II. Geographical distribution of birds. Present faunas. Species extinct

in historic times. Migrations. Accidental changes of place. Appearance of rare species in certain districts.

III. Biology — Habits — Diet — Nesting. Oölogy.

IV. Economic ornithology — protection of species useful to agriculture; destruction of harmful species, hunting. Acclimatation. Aviculture.

V. Organization and working of the international ornithological committee. Election of new members. (This section is especially reserved for members of the permanent international committee.)

Papers on the subjects of the program which have been accepted by the committee will be discussed in general session. Questions outside the program may be submitted to the respective sections. All papers must be in the hands of the organizing committee, at least in the summary form containing the conclusions reached, before the 1st of May, 1900. Communications may be made in English, German, and Italian, as well as French; but the publications of the congress will be limited to the French language. Minutes of each meeting will be printed and distributed at once. After the close of the congress a volume of proceedings containing the papers presented to the congress will be published under the direction of the committee. Correspondence relating to the ornithological congress should be addressed to the secretary of the organizing committee, M. Jean de Claybrooke, 5 rue de Sontay, Paris.

Erratum.— In 'The Auk' for January the change of a single letter in the eighth line from the top of page 78 exactly reverses the meaning of the sentence: "the true Swifts, *Macropterygidæ*," should of course read Tree Swifts. — F. A. LUCAS.

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## ERRATA.

Page 21, line 14 from top, for true frog read tree frog.

Page 78, line 8 from top, for true Swifts read Tree Swifts.

" 236, after the title of the paper on the Prothonotary Warbler, insert, BY THOMAS S. ROBERTS.

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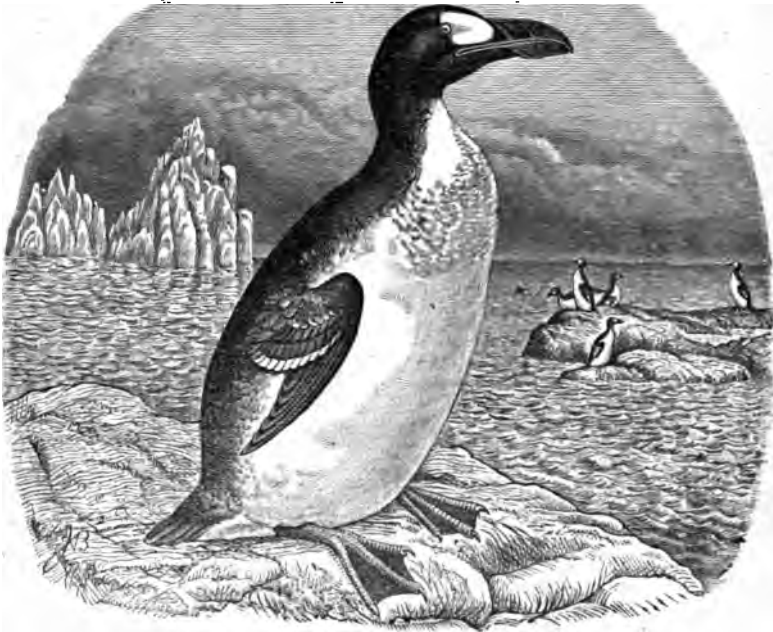
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A Quarterly Journal of Ornithology

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No. 3



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